
اللهم أنر قبر منْ حنّ لهُ القلب
اللهم هب له سعة في قبره لا يرا لها نهاية
هب لمضجعه طيبا وَ لظلمته نورا
ولذنوبه غفراناً وَ برّد قبره
وزده احساناً فوق احسانه
واجعل الجنة مسكنه

A 51-year-old woman presents with a 6-month history of facial flushing. She is known to be hypertensive and is a type-2 diabetic. Her current medications include bisoprolol, diltiazem, metformin and aspirin. She says the flushing only affects her face, that it can occur at any time and lasts for hours, there is no rash associated with the flushing and there are no other associated symptoms. It became much more noticeable after her blood pressure medication was changed.

Which of the following is the most likely explanation for this patient's flushing?

A	Rosacea
B	Menopause
C	Iatrogenic
D	Anxiety
E	Mitral valve disease

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A 51-year-old woman presents with a 6-month history of facial flushing. She is known to be hypertensive and is a type-2 diabetic. Her current medications include bisoprolol, diltiazem, metformin and aspirin. She says the flushing only affects her face, that it can occur at any time and lasts for hours, there is no rash associated with the flushing and there are no other associated symptoms. It became much more noticeable after her blood pressure medication was changed.

Which of the following is the most likely explanation for this patient's flushing?

A	Rosacea
B	Menopause
C	Iatrogenic
D	Anxiety
E	Mitral valve disease

Explanation

The answer is Iatrogenic -

Most women who complain of flushing do suspect the menopause, but it is important to remember the other causes. Patients complaining of associated symptoms of sweating waking them at night are likely to be menopausal. Symptoms of anxiety and hyperthyroidism (another common cause of flushing) can often be confused. Calcium-channel blockers are a common cause of facial flushing, which can often be continuous and persistent.

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A 45-year-old office worker presents with a sudden onset of itchy, raised lesions all over her body affecting her arms, legs and face for the last 3 weeks. It was partially relieved by desloratidine (antihistamine). Her GP prescribed 30 mg prednisolone for 3 days, which has afforded little benefit. Routine blood tests checked by the GP are unremarkable apart from a slight increase in her eosinophil count. You make a diagnosis of urticaria.

What is your next management option?

A	Refer for skin-prick testing
B	Refer for RAST testing
C	Increase prednisolone to 60 mg for 6 days
D	Switch desloratidine to cetirizine
E	Screen for anti-TTG antibodies

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E	Screen for anti-TTG antibodies

Explanation

D	Switch desloratidine to cetirizine

Blood testing including allergy screening is not routinely recommended in the management of urticaria, which may occur as part of an allergic or non-allergic process. Most patients find that antihistamines, at a regular dose, give some relief. Cetirizine may have greater pharmacodynamic effect in certain individuals than desloratidine.

A	Refer for skin-prick testing

Studies suggest that the prevalence of positive skin prick tests in patients with urticaria is high, but there is little link to avoidance of triggers or exposure to them and response in terms of resolution or worsening of the skin rash.

B	Refer for RAST testing

RAST testing is an antibody-based test conducted using a blood sample where a specific allergen is either known or strongly suspected. This isn't the case in idiopathic urticaria.

C	Increase prednisolone to 60 mg for 6 days

The benefit risk of using high-dose steroids in the treatment of urticaria is not positive because of a slow and limited response in terms of the rash, and side effects of therapy.

E	Screen for anti-TTG antibodies

The rash of dermatitis herpetiformis, associated with gluten intolerance, is a blistering rash rather than the wheal and flair-type reaction seen here.

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Responses Correct:	0
Responses Incorrect:	2
Responses Total:	2
Responses - % Correct:	0%

External Links

Comparative pharmacology of the H 1 antihistamines
jiaci.org/issues/vol16s1/2.pdf

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A 62-year-old woman presents to your clinic with a rapidly enlarging erythematous plaque on the dorsum of her hand. It is intensely red but not very itchy. It has begun to blister, containing clear, yellow fluid. Otherwise she feels well. She says the same thing happened to her last time she was on holiday in Spain. The blister lasted about 3 weeks then settled spontaneously. She has a history of hypertension and partial epilepsy after a minor stroke, and takes Ramipril 10 mg, amlodipine 10 mg, aspirin 75 g, atorvastatin 20 mg and phenytoin 200 mg.

Which of the following is the most likely cause of her skin rash?

A	Amlodipine
B	Atorvastatin
C	Aspirin
D	Phenytoin
E	Ramipril

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Calculator

Normal Values

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Which of the following is the most likely cause of her skin rash?

A	Amlodipine
B	Atorvastatin
C	Aspirin
D	Phenytoin
E	Ramipril

Explanation

D	Phenytoin

A violent local erythema that blisters and recurs at the same site with sun exposure raises the possibility of a fixed drug eruption. A skin biopsy would be diagnostic, demonstrating an eosinophilic infiltrate.

Common causes of a fixed drug eruption include:

- Fluconazole
- Ciprofloxacin
- Doxycycline
- Clarithromycin
- NSAIDs
- Trimethoprim
- Cotrimoxazole
- Phenytoin.

Switching to another anti-epileptic should lead to resolution of the rash, and reducing sun exposure may impact on its severity.

A	Amlodipine

Amlodipine is uncommonly associated with alopecia, purpura, skin discoloration and hyperhidrosis, but isn't strongly associated with a fixed drug eruption.

B	Atorvastatin

Atorvastatin is uncommonly associated with urticarial, generalised skin rashes and alopecia.

C	Aspirin

The main skin rash associated with aspirin use is urticarial rather than a fixed drug eruption.

E	Ramipril

Ramipril isn't strongly associated with fixed drug eruptions - a maculo-papular rash is the commonest association with Ramipril use. Angioedema is of course a main concern with respect to ACE inhibitor use.

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Responses Incorrect:	3
Responses Total:	3
Responses - % Correct:	0%

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A 45-year-old man presented with fever, widespread rash and confusion. His only past history of note was Sydenham's chorea and a number of recent dental extractions. While in hospital his rash, which initially looked like petechial haemorrhages, worsened and developed into a purpuric rash heavily concentrated on his trunk and lower limbs, and he was started on cefuroxime and aciclovir. Over the weekend he developed an episode of ataxic hemiparesis that resolved. When he was seen on the Monday-morning ward round he complained of incoordination of his right arm. A CT head showed evidence of small infarcts in a number of areas. A lumbar puncture was performed. The only abnormality is a raised protein of 0.7 g/l (normal <0.5 g/l). HSV PCR is negative. He is still spiking temperatures of up to 39°C and the rash is not subsiding despite antibacterial and antiviral treatment.

What is the most useful examination to confirm the cause of his neurological symptoms?

A	MRI brain
B	Trans-oesophageal echocardiography (TOE)
C	Cryoglobulins
D	Serum antiphospholipid antibodies
E	Blood cultures

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Normal Values

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A	MRI brain
B	Trans-oesophageal echocardiography (TOE)
C	Cryoglobulins
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E	Blood cultures

Explanation

B	Trans-oesophageal echocardiography (TOE)

A patient with persistent fever, rash and embolic events must have an urgent TOE to exclude infective endocarditis. The recent dental extractions raise the possibility of *S. viridans* endocarditis.

A	MRI brain

MRI brain may confirm multiple small infarcts, although it won't confirm whether they are septic in nature.

C	Cryoglobulins

Cryoglobulins are a non-specific marker of vasculitis and are found in a significant percentage of patients with infective endocarditis, but they are relatively non-specific.

D	Serum antiphospholipid antibodies

Although cerebral lupus may present with multiple small infarcts, given the pyrexia and recent dental extractions, infective endocarditis should be ruled out first.

E	Blood cultures

Blood cultures may be positive but won't confirm endocarditis as the underlying cause of his neurological symptoms, because of septic emboli.

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Responses Incorrect:	4
Responses Total:	4
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A 56-year-old lady presents with the skin lesion shown below on the anterior aspect of her shin. She thinks that is increasing in size. She also attends another hospital for diabetes mellitus, for which she takes a combination of metformin and sitagliptin. Over the past few months she admits to increasing tiredness and vague joint pains. Her BP is 149/82 mmHg, pulse is 72 and regular, BMI is 29.



Which is the most likely cause of her skin lesion?

A	Psoriasis
B	Sarcoidosis
C	Basal cell carcinoma
D	Systemic lupus erythematosus
E	Necrobiosis lipoidica diabeticorum

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E	Necrobiosis lipoidica diabeticorum

Explanation

E	Necrobiosis lipoidica diabeticorum

Early necrobiosis lipoidica diabeticorum is often difficult to diagnose as it may appear psoriatic in nature, and telangiectasia are seen on the waxy surface. Less than 1% of diabetic patients have this, but most patients with the condition have diabetes mellitus (60%). Lesions appear as one or more discoloured areas on the fronts of the shins - shiny, atrophic and brown-red or slightly yellow. The margin may be erythematous or violet. Treatment is difficult, although anti-platelet agents and immunomodulators appear to show at least some effect on progression.

A	Psoriasis

A single lesion on the shin is unlikely to be due to psoriasis, and the size increase is consistent with necrobiosis lipoidica.

B	Sarcoidosis

Sarcoidosis is associated with erythema nodosum, with multiple raised red/purple nodules on the shins, rather than the single enlarging lesion seen here.

C	Basal cell carcinoma

Sun-exposed areas of skin, such as the head and neck, are the commonest areas for basal cell carcinomas to occur. They may resemble necrobiosis in the early stages, although a more nodular appearance versus that seen here would be expected.

D	Systemic lupus erythematosus

SLE is associated with erythema nodosum and arthritis, but other features such as a rash on sun-exposed areas of skin are not seen here.

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A 55-year-old lady was admitted under the liver team with alcoholic liver disease. She was commenced on primary prophylaxis for spontaneous bacterial peritonitis and discharged from hospital five days later. A week later she developed well-demarcated erythema over the front of her legs and large blisters over her knees and dorsum of her feet, and on her lower arms after a short sunbathing spree in the park. On examination there are no other abnormalities on the skin elsewhere.

Which is the most likely diagnosis?

A	Porphyria cutanea tarda
B	Polymorphic light eruption
C	Pemphigus vulgaris
D	Phototoxic reaction
E	Sunburn reaction

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Which is the most likely diagnosis?

A	Porphyria cutanea tarda
B	Polymorphic light eruption
C	Pemphigus vulgaris
D	Phototoxic reaction
E	Sunburn reaction

Explanation

D	Phototoxic reaction

Phototoxic drug reactions have been described for all quinolones including ciprofloxacin, a common antibiotic choice for the treatment of spontaneous bacterial peritonitis. Phototoxic skin reactions *per se* are associated with confluent areas of erythema.

A	Porphyria cutanea tarda

Porphyria cutanea tarda could account for the blisters seen here, although patients tend to have other skin manifestations, e.g. blisters, erosions and milia on exposed parts of the face and backs of the hand in response to sunlight.

B	Polymorphic light eruption

Polymorphic light eruptions affect exposed areas and often result in blistering, although the face is often spared. They are usually preceded by a long history of sun intolerance. Polymorphic light eruption appears some hours after sun exposure and a number of features may be seen, including papules and erythematous plaques.

C	Pemphigus vulgaris

Pemphigus vulgaris is a painful, blistering rash that isn't confined to sun-exposed areas, particularly affecting the buccal cavity.

E	Sunburn reaction

A short sunbathing spree in an English park would be unlikely to lead to severe sunburn; a phototoxic drug reaction related to quinolone use is much more likely.

Phototoxicity has been described for all quinolones including ciprofloxacin. Porphyria cutanea tarda could account for the blisters, but patients tend to have other skin manifestations e.g. blisters, erosions and milia on exposed parts of the face and backs of the hand in response to sunlight. Polymorphic light eruption affects exposed areas and often results in blistering although the face is often spared. It is usually preceded by a long history of sun intolerance. Polymorphic light eruption appears some hours after sun exposure and a number of features may be seen including papules and erythematous plaques. Phototoxic skin reactions per se are associated with more confluent areas of erythema.

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A 27-year-old lady presents with a thickened erythema over the right shoulder. She has noticed the skin becoming darker. New areas have also appeared on the trunk and right thigh. The skin has become thicker in these areas too. Six weeks earlier she was admitted to hospital following an accident on her boyfriend's motorcycle. She is otherwise fit and well. She takes antacids occasionally, which she buys over the counter. She is a non-smoker and drinks approximately 20 units a week. On examination the temperature is 36.8°C; blood pressure is 120/85 mmHg; pulse 70 beats/min. Respiratory, cardiovascular and neurological examinations are unremarkable. Examination of the abdomen reveals mild tenderness only.

What is the most likely diagnosis?

A	Diffuse systemic sclerosis
B	Morphoea
C	Limited systemic sclerosis
D	Eosinophilic fasciitis
E	Shoulder-hand syndrome

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Normal Values

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B	Morphoea
C	Limited systemic sclerosis
D	Eosinophilic fasciitis
E	Shoulder-hand syndrome

Explanation

B	Morphoea

Morphoea, or localised scleroderma, usually presents as a plaque of indurated mauve skin which later becomes waxy and either pale or hyperpigmented, with absent hair and sweating. Young adults aged 20-40 years are affected commonly. The cause is unknown but may be provoked by trauma or infection. Extensive morphoea may mimic systemic sclerosis, but differs in the absence of systemic disease, Raynaud's phenomenon and hand lesions. Autoantibodies are usually negative. Plaque morphoea may improve spontaneously, but local steroids, topical and oral vitamin D analogues and light therapy can be used.

A	Diffuse systemic sclerosis

The absence of significant gastro-oesophageal reflux disease, hand signs, hypertension, renal impairment and any significant shortness of breath indicating pulmonary fibrosis, counts against diffuse systemic sclerosis.

C	Limited systemic sclerosis

Limited systemic sclerosis was formerly known as CREST syndrome (Calcinosis, Raynaud's disease, (o)Esophageal dysmotility, Sclerodactyly, Telangiectasia). This patient has symptoms of skin involvement only.

D	Eosinophilic fasciitis

Eosinophilic fasciitis is characterised by peripheral blood eosinophilia and fibrosis, although skin changes typical of those in systemic sclerosis are not seen.

E	Shoulder-hand syndrome

This is also known as reflex sympathetic dystrophy, where chronic pain is seen after a regional event such as a fracture.

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A 30-year-old gentleman presents with the following rash. It started as a lesion on the knuckles a year ago. Over the last six months it has spread to the arm, trunk and back. He has also noticed some weight loss and malaise. He works as an entertainment officer on a cruise ship, is single, and has recently spent the past year cruising around the Far East. His BP is 122/72, pulse is 65 and regular, BMI is 23. Cardiovascular, respiratory and abdominal examination is unremarkable. There is no tremor.



Which of the following is the disease most likely to be the underlying his skin appearance?

A	Hodgkin's lymphoma
B	Hyperthyroidism
C	HIV infection
D	Non-Hodgkin's lymphoma
E	Systemic lupus erythematosus

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Normal Values

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C	HIV infection
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E	Systemic lupus erythematosus

Explanation

C	HIV infection

The skin rash shown here is disseminated granuloma annulare. The cause is unknown, although there are numerous reports of the association of granuloma annulare with HIV infection and lymphoma; given what we know of this man's age and lifestyle, HIV is the likelier of the two diagnoses. Clinically, lesions lie over the knuckles and are composed of dermal nodules fused into a rough ring shape. On the trunk, many lesions may have a purple tinge to them. Lesions usually resolve over 2–3 years. Stubborn lesions respond to intra-lesional trimacinolone or systemic immunosuppressants. Some resolution occurs when the diagnosis of HIV is made and HAART is instituted.

A	Hodgkin's lymphoma

Although Hodgkin's lymphoma is a recognised cause of granuloma annulare, the history fits better with a potential infectious agent as the cause of his presentation, rather than haematological malignancy.

B	Hyperthyroidism

BMI, pulse and blood pressure are in the normal range, and there is no tremor, making significant thyrotoxicosis less likely as the underlying diagnosis here.

D	Non-Hodgkin's lymphoma

Generalised granuloma annulare is associated with non-Hodgkin's lymphoma, although NHL presents at an older median age and is associated with other symptoms not present here such as lymphadenopathy, weight loss and night sweats.

E	Systemic lupus erythematosus

SLE is commonly associated with an erythematous rash on sun-exposed areas rather than the generalised granulomatous rash seen here.

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Responses Incorrect:	8
Responses Total:	8
Responses - % Correct:	0%

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A 56-year-old lady presents with a spot on her right leg which over the last nine months has become erythematous and broke down to form a painful rapidly spreading ulcer. She currently takes diclofenac and lansoprazole for arthritis. She had a similar episode 2 years ago and was given a reducing course of oral prednisolone, which completely cleared the lesion. She was seen by her general practitioner (GP) who prescribed oral antibiotics, and after a week there has been no improvement.
On examination the temperature is 37.1°C. There is a large necrotic ulcer on the right shin with a well-defined rolling edge. There are no other skin changes seen.
There is no neurological deficit in the lower limbs.
Pedal pulses are present and bounding in nature.

Which is the most likely diagnosis?

A	Rheumatoid ulcer
B	Vasculitic ulcer
C	Venous ulcer
D	Pyogenic granuloma
E	Pyoderma gangrenosum

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Calculator

Normal Values

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C	Venous ulcer
D	Pyogenic granuloma
E	Pyoderma gangrenosum

Explanation

Pyoderma gangrenosum occurs when an inflamed nodule or pustule breaks down centrally to form an expanding ulcer with a characteristic undermined bluish edge. The condition is not bacterial in origin but its pathogenesis (probably immunological) is not fully understood. It can occur in the absence of underlying disease but tends to be associated with:

- Ulcerative colitis
- Conditions causing polyarthritis e.g. rheumatoid arthritis
- Crohn's disease
- Monoclonal gammopathies
- Leukaemia (bullous form of pyoderma)

Lesions can be single or multiple. The condition tends to respond to systemic steroids but not antibiotics, and they usually heal leaving papery scars.

Vasculitic ulcers are usually deep and punched out. Venous ulcer is unlikely in the absence of signs of venous hypertension i.e. lipodermatosclerosis.

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Responses Incorrect:	9
Responses Total:	9
Responses - % Correct:	0%

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An 18-year-old Moroccan lady who returned to the UK four months previously attends with a two-day history of the following painful ‘lumps’ on her forearms and shins.



She gives a six-week history of intermittent night sweats, fever and general malaise. During this time she has had intermittent lower abdominal pain and heavy periods. She has taken aspirin for the pain. She has no drug allergies and has no past medical history of note.
On examination she is pyrexial (38°C) and thin. Respiratory, cardiovascular, abdominal and neurological examinations are unremarkable. Vaginal examination reveals tenderness in the right adnexa.

Investigations:

CXR	Left upper lobe calcification
Abdominal X-ray	NAD
Antinuclear antibody	negative
Hepatitis B surface antigen	negative
Sputum: Ziehl–Neelsen (ZN) stain	negative
High vaginal swab	pus cells ++; ZN stain and culture pending

What is the most likely diagnosis?

A	Sarcoidosis
B	Tuberculosis
C	Polyarteritis nodosa
D	Toxic shock syndrome
E	Crohn’s disease

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What is the most likely diagnosis?

A Sarcoidosis

B Tuberculosis

C Polyarteritis nodosa

D Toxic shock syndrome

E Crohn's disease

Explanation

B Tuberculosis

This patient has erythema nodosum, which may affect parts of the body other than the shins. She is from Morocco and so tuberculosis is high on the differential diagnosis. The only other physical finding is the tenderness on vaginal examination, and this pathology in the ovarian tubes suggests a diagnosis of unilateral salpingitis secondary to tuberculosis. This can occur in the absence of respiratory infection or signs, although the apical calcification on CXR raises the possibility of previous pulmonary tuberculosis.

A Sarcoidosis

The marked pyrexia and adnexal tenderness are more in keeping with infection rather than an inflammatory process, although sarcoid is of course a recognised cause of erythema nodosum.

C Polyarteritis nodosa

Polyarteritis nodosa (PAN) is usually associated with gastrointestinal pathology, hepatitis B infection and may be associated with low-level positive ANA (anti-nuclear antibody) titres. Because there is no significant history of bowel disturbance, and hepatitis B is negative, PAN is unlikely.

D Toxic shock syndrome

Toxic shock syndrome is usually related to a retained tampon, rather than to fallopian tube infection as is hinted at here.

E Crohn's disease

Crohn's disease can present with abdominal pain and erythema nodosum, although the signs of previous tuberculosis infection and pus cells on high vaginal swab count more against Crohn's as the underlying diagnosis.

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A 27-year-old lady presents with a 9-month history of headaches and a worsening rash on her face. Her appetite has increased a little, and although she has always been overweight, she is concerned that this has further increased over the past year or so. Her BMI is 31. Blood pressure is 152/89 mmHg, pulse is 74 and regular. A fasting blood glucose is 6.0 mmol/l. She has severe facial acne (see image below).



Which underlying diagnosis should you consider?

A	Congenital adrenal hyperplasia
B	Systemic lupus erythematosus (SLE)
C	Hypothyroidism
D	Sarcoidosis
E	Polycystic ovarian syndrome (PCOS)

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Explanation

E Polycystic ovarian syndrome (PCOS)

Acne presenting at beyond aged 20 years should always prompt investigation of a possible secondary cause. Acne accompanying polycystic ovarian syndrome is caused by modestly raised circulating androgen levels. It should always be considered in obese females with oligomenorrhoea, secondary amenorrhoea or infertility. Glucose intolerance, (note the glucose is at the very upper end of the normal fasting range), dyslipidaemia and hypertension may be other features. Weight loss is the most important intervention.

A Congenital adrenal hyperplasia

Non-classical adrenal hyperplasia can present with later features of hyperandrogenism rather than the usual salt wasting in infancy, but it is significantly rarer than PCOS.

B Systemic lupus erythematosus (SLE)

SLE is associated with a photosensitive erythematous rash rather than the acneiform picture seen here.

C Hypothyroidism

Hypothyroidism is associated with a ‘peaches and cream’ complexion and brittle hair with areas of hair loss, rather than the picture seen here.

D Sarcoidosis

Sarcoidosis is associated with erythema nodosum rather than an acneiform skin rash like that seen here. The absence of other features of sarcoidosis, such as a dry cough or hypercalcaemia, also counts against this as the underlying diagnosis.

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A 33-year-old male returned a fortnight ago from an eight-month business trip with colleagues to Peru. He noticed a few papules on his trunk. Two of these have evolved to form superficial ulcers. He feels well in himself and denies fever, diarrhoea or headaches. He does remember having a flu-like illness while he was in Peru. Routine bloods including full blood count and white cell differential are normal.

Which is the most likely diagnosis?

A	Cutaneous leishmaniasis
B	Cutaneous larva migrans
C	Tick typhus eschar
D	Dengue fever
E	Cutaneous tuberculosis

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Which is the most likely diagnosis?

A	Cutaneous leishmaniasis
B	Cutaneous larva migrans
C	Tick typhus eschar
D	Dengue fever
E	Cutaneous tuberculosis

Explanation

A	Cutaneous leishmaniasis

Cutaneous leishmaniasis (CL) is the most likely diagnosis from the history. The incubation time is 7 days to several months. In cutaneous larva migrans, worm-like lesions have an incubation period 1–4 days and are found mainly after holidays to Caribbean beaches. Treatment of CL is determined by species type and by the potential to develop into mucosal disease.

B	Cutaneous larva migrans

Cutaneous larva migrans occurs as a result of hookworm infection caused by walking barefoot. The trails caused by the larvae are usually seen on the feet and ankles.

C	Tick typhus eschar

The eschar of tick typhus is a papule, which evolves to a black scab. This condition is also found in southern Africa, and has an incubation period of fewer than 7 days.

D	Dengue fever

Dengue fever occurs in tropical countries, with an incubation period of under two weeks and is associated with systemic features and a morbilliform rash.

E	Cutaneous tuberculosis

Cutaneous lesions are relatively uncommon in TB infection, occurring in only 1-2% of infected patients. The clinical findings vary: inflammatory papules, verrucous plaques, suppurative nodules, chronic ulcers or other lesions may be seen. Superficial ulcers on the trunk are not a usual manifestation of TB.

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Responses Correct:	0
Responses Incorrect:	12
Responses Total:	12
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A 48-year-old obese lady presents with a one-week history of general malaise and progressive painful swelling of the right lower limb. Over the last 24 h she has noticed blistering on the shin with involvement of the foot now. In her past medical history she had a similar episode necessitating a four-week stay in hospital four months ago, and was treated for a latest episode of cellulitis only 6 weeks ago. She is hypertensive and takes amlodipine regularly. She has no drug allergies.
On examination she is afebrile. Respiratory, abdominal and cardiovascular examinations are unremarkable. The right lower limb is tender and swollen up to mid-thigh. The toes are macerated.

Blood results are as follows:

6.9 mmol	
Haemoglobin (Hb)	14 g/dl
White cell count (WCC)	14×10^9/l
Neutrophils	9.0×10^9/l
Platelets	350×10^9/l
Erythrocyte sedimentation rate (ESR)	21 mm/h
Na^+	140 mmol/l
K^+	4.0 mmol/l
Urea	6.0 mmol/l
Creatinine	100 µmol/l
C-reactive protein (CRP)	185 mg/l

What is/are the first line antibiotic(s) of choice?

A	Intravenous (iv) benzylpenicillin and flucloxacillin
B	iv flucloxacillin
C	iv flucloxacillin and oral metronidazole
D	iv vancomycin
E	Oral clindamycin

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E	Oral clindamycin

Explanation

Most patients with proximally spreading lower leg cellulitis have streptococcal infection. In cases of resistant and recurrent streptococcal cellulitis, clindamycin is the antibiotic of choice in the absence of other predisposing factors e.g. diabetes, immunosuppression, cirrhosis or recent foreign travel. This patient is haemodynamically stable and intravenous vancomycin is too aggressive at this time. However antibiotic treatment should of course be modified if necessary according to sensitivities after culture; the possibility of methicillin-resistant Staphylococcus aureus (MRSA) should also be borne in mind given this lady's recent hospital stay.

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Responses Total:	13
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A 37-year-old Turkish gentleman is referred by his general practitioner (GP) with the following 'warty' skin lesion.



His girlfriend is worried that it has worsened over the last nine months. He feels that sometimes it completely clears up by itself. He has not tried any treatments. It has recently become itchy and he has been finding sexual intercourse painful. More recently he has noticed an itchy lesion on the dorsum of his big toe too.

What is the diagnosis?

A	Lichen planus
B	Lichen sclerosus
C	Psoriasis
D	Genital warts
E	Secondary syphilis

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What is the diagnosis?

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C	Psoriasis
D	Genital warts
E	Secondary syphilis

Explanation

Lichen planus is of unknown aetiology. Its association with autoimmune diseases like vitiligo, alopecia areata and ulcerative colitis suggests that it too can be mediated immunologically. Typical lesions are violaceous or lilac-coloured intensely itchy flat-topped papules arising on the extremities. Genital skin is similarly affected in the absence of oral, nail or other skin findings. In 50% of patients there are oral lesions e.g. white asymptomatic lacy lines, dots or plaques. In 10% of patients there are nail changes e.g. longitudinal ridging and destruction of the nail bed. Potent topical steroids are the treatment of choice.

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Responses Correct:	0
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Responses Total:	14
Responses - % Correct:	0%

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A 19-year-old gentleman attends with a nine-month history of a lesion on the head of his penis. He is very anxious that it is rather unsightly. He tells you that he has a skin condition affecting the rest of his body, which he thinks is eczema.



The lesion doesn't cause severe symptoms, apart from being a little sore and itchy at times.

What is the most likely diagnosis?

A	Psoriasis
B	Discoid eczema
C	Lichen planus
D	Lichen sclerosus et atrophicus
E	Vitiligo

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D	Lichen sclerosus et atrophicus
E	Vitiligo

Explanation

Psoriasis is often difficult to recognise and distinguish from tinea and eczema in the genitalia. There are often skin changes elsewhere. In this case the patient had incorrectly self-diagnosed eczema. The erythematous scaling plaque is clinically diagnostic. In the groin it is often not scaly but glistening and well demarcated. The treatment is moderately potent topical steroids in the first instance.

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A 58-year-old self-employed gentleman presents with a four-month history of progressive dyspnoea and fatigue. He complains of a painful rash on the backs of his hands with similar skin lesions on the dorsum of his feet and on his ears. It is worsened if he goes out in the sun without adequate sun protection.



On further questioning he has noticed a significant weight loss with reduced appetite. He takes regular analgesics for migraines. He is allergic to penicillin. He is a non-smoker and drinks alcohol socially.

On examination the following results are obtained:

Haemoglobin (Hb)	10 g/dl
Mean corpuscular volume (MCV)	70 fl
White cell count (WCC)	8.0×10^9/l
Platelets	490×10^9/l
C-reactive protein (CRP)	40 mg/l
Erythrocyte sedimentation rate (ESR)	30 mm/h
Creatine kinase	360 IU/l (17–148 IU/l)
Antinuclear antibody	negative
Chest examination	right basal crackles
Abdominal examination	unremarkable

CNS examination:

Cranial nerves	intact
Tone	normal throughout
Reflexes	intact
Power	5/5 except hip flexors 4/5

Downgoing plantars bilaterally. No sensation deficits.

What is the most likely diagnosis?

A	Systemic lupus erythematosus
B	Polymyositis
C	Polymyalgia rheumatica
D	Guillain–Barré syndrome
E	Dermatomyositis

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Normal Values

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C	Polymyalgia rheumatica
D	Guillain–Barré syndrome
E	Dermatomyositis

Explanation

Dermatomyositis is an autoimmune skin condition characterised by insidious, symmetrical, proximal muscle weakness resulting from muscle inflammation. Autoantibodies to striated muscle are found. The skin signs are characteristic:

- Heliotrope rash: lilac discolouration around eyes
- Malar erythema and facial oedema
- Gottren's papules (seen in picture): lilac atrophic papules over knuckles
- Erythema and telangiectasia of nail folds.

The skin signs can appear much earlier than the muscle symptoms. Malignancy is associated with dermatomyositis in up to 30% of patients above the age of 40 years. The neoplasias most commonly seen are breast, lung, ovary and stomach. In this gentleman it probably coincides with a stomach malignancy. Treatment is with high-dose steroids and immunosuppressants. Management of the driving malignancy often leads to resolution of the cutaneous symptoms.

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A 33-year-old lady presents with 2-day history of a generalised papular rash affecting the face, trunk and arms. Over the last 24 h she has been complaining of fever and swelling of her face. She was recently diagnosed with a brain tumour and is receiving radiotherapy at another hospital. Her current medications include phenytoin, paroxetine, diazepam and lansoprazole.
On examination she is afebrile. There are papules and pustules on the trunk, upper arms and face. There is some facial oedema but no stridor. There is cervical lymphadenopathy.
Respiratory examination is unremarkable.

Neurological examination is as follows:

Cranial nerves:	Partial right-sided ptosis
	Lower R VII n palsy
Peripheral nervous system:	Right lower limb weakness proximally
	Brisk reflexes throughout
	Right extensor plantar

Haemoglobin	12.4 g/dl
White cell count (WCC)	14×10^9/l
Lymphocytes	4.0×10^9/l
Eosinophils	0.7×10^9/l
Platelets	420×10^9/l
Na^+	132 mmol/l
K^+	4.9 mmol/l
Urea	6.9 mmol/l
Creatinine	125 μmol/l

What is the most likely diagnosis?

A	Bacterial meningitis
B	Erythema multiforme
C	Drug hypersensitivity syndrome
D	Fixed drug eruption
E	Toxic epidermal necrolysis

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Explanation

Drug hypersensitivity syndrome is a serious hypersensitivity reaction pattern that tends to occur 3–6 weeks after commencing certain drugs, particularly anticonvulsants and antimicrobials with fever, facial oedema, generalised papulopustular or exanthematous rash, lymphadenopathy, or hepatitis. This is sometimes associated with nephritis, pneumonitis, myocarditis and hypothyroidism with eosinophilia and mononucleosis. The drug hypersensitivity syndrome responds to oral steroid treatment. It should be noted that in patients already taking steroids, the signs of drug hypersensitivity may be masked to some degree. Fixed drug eruptions occur in the same area of skin when a drug is given. The rash of erythema multiforme is characterised by "target" lesions rather than the pattern of rash seen here. Toxic epidermal necrolysis is characterised by extensive blistering and skin loss. The pattern of rash and facial swelling does not fit with the typical pattern seen with meningitis, although it would still be considered a differential here.

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Responses Total:	17
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You are called to the neurosurgical ward by the senior house officer. He is worried about a 25-year-old man who has been on the ward for almost two weeks following a neurosurgical procedure. He was started on carbamazepine postoperatively and has been doing remarkably well. He is due to go home tomorrow but today has been feeling unwell and is worried that the skin on his body is very red. He did spend a large part of the day out in the hospital grounds. In the last few hours his pulse rate has increased to 130 beats/min and he is feeling very unwell. He has also noticed blistering over his arms in the last hour.

Which of the following is most likely to improve prognosis?

A	Intravenous (iv) hydrocortisone
B	Ciclosporin
C	Broad-spectrum antibiotics
D	Rapid withdrawal of responsible drug
E	Oral prednisolone

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D	Rapid withdrawal of responsible drug
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Explanation

This gentleman has developed toxic epidermal necrolysis (TEN) secondary to the carbamazepine. Toxic epidermal necrolysis is a potentially life-threatening skin disorder that most commonly is drug induced. However, other etiologies, including infection, malignancy, and vaccinations, may exist. Toxic epidermal necrolysis is idiosyncratic, and its occurrence is not predicted easily. Some authors believe Stevens-Johnson syndrome (SJS) is a manifestation of the same process, with TEN representing more extensive necrotic epidermal detachment. The risk of death in patients with toxic epidermal necrolysis can be accurately predicted by the toxic epidermal necrolysis-specific severity-of-illness score (SCORTEN). A score of 0-1 indicates a mortality risk of 3.2%; score of 2, 12.1%; score of 3, 35.3%; score of 4, 58.3%; and a score of 5 or more, 90%. Each of the following independent prognostic factors is given a score of one:Age of greater than 40 years; Heart rate of greater than 120 beats per minute; Cancer/hematologic malignancy; Involved body surface area of greater than 10%; Serum urea level of more than 10 mmol/L; Serum bicarbonate level of less than 20 mmol/L; Serum glucose level of more than 14 mmol/L. The condition requires intensive therapy with nursing on air-fluidised mattresses, as the skin is so fragile. Any potentially responsible drug should be withdrawn as quickly as possible: one observational study showed a reduction in mortality from 26% to 5% when the implicated drugs with short elimination half-lives were withdrawn no later than the day the blisters or erosins first developed. Routine use of prophylactic broad-spectrum antibiotics and steroid therapy remains controversial, as does the use of IV immunogloblins. Plasmapheresis may have a role in the management of some cases.

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Responses Total:	18
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A 24-year-old Japanese city banker presents with recurrent mouth ulcers. He was seen by oral surgeons, who prescribed chlorhexidine mouthwashes and oral aciclovir. He has used prednisolone lozenges in the past with good effect. More recently the ulcers have been occurring more frequently and are more painful. In the last two days he has felt pain at the tip of his penis particularly when having sexual intercourse. When questioned he denies any problems with his eyes. He is a keen footballer and occasionally gets injuries to his knees when he has to take ibuprofen to obtain relief. Recently though he has not managed to make the competitive matches as he has felt so tired after work. He denies any weight loss and his appetite is unchanged.

He is currently taking oxytetracycline prescribed by his general practitioner (GP) for his acne vulgaris. He also has a history of irritable bowel syndrome.

On examination there are multiple aphthous ulcers in the oral cavity. There is also a small aphthous ulcer on the tip of the penis.

Cardiovascular, respiratory and neurological examinations are unremarkable.
Abdominal examination reveals mild diffuse tenderness but no masses. Rectal examination reveals no abnormality.

Blood results are as follows:

Haemoglobin (Hb)	12 g/dl
White cell count (WCC)	9.0×10^9/l
Platelets	400×10^9/l
Na^+	140 mmol/l
K^+	4.0 mmol/l
Urea	6.8 mmol/l
Creatinine	100 mol/l
Erythrocyte sedimentation rate (ESR)	20 mm/h
Antinuclear antibody	Negative
Anti-dsDNA antibody	Negative

What is the most likely diagnosis?

A	Crohn's disease
B	Behçet's syndrome
C	Reiter's disease
D	Herpes simplex type I infection
E	Systemic lupus erythematosus

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C	Reiter's disease
D	Herpes simplex type I infection
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Explanation

Behçet's disease is a chronic multisystem disease, most prevalent in the Mediterranean, Middle East and Japan. It is largely a diagnosis of exclusion and can often be confused with Crohn's disease and therefore the latter must be excluded. It is a systemic vasculitic disorder involving arteries and veins with a tendency to thrombosis. In over 90% of cases there are painful oral aphthous ulcers, in over 70% genital aphthous ulcers and in over 50% ocular inflammation occurs. Other features include arthritis, central nervous system involvement and skin lesions e.g. erythema nodosum, folliculitis and acneiform lesions on the face. It commonly takes on a relapsing and remitting course. Treatment is largely symptomatic, and in the case of eye disease it is aimed at reducing the progression of disease.

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A 47-year-old man is referred with a 1-year history of a lesion developing on the right upper lip, which has steadily enlarged. There is no history of itching or bleeding. He was noted to be a keen user of sunbeds, which he found helped to relieve his chronic back pain. Examination revealed a firm nodular lesion below the right nasolabial fold.

What is the most likely diagnosis?

A	Nodular cutaneous amyloid
B	Basal cell carcinoma
C	Squamous cell carcinoma
D	Actinic keratosis
E	Pyogenic granuloma

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E	Pyogenic granuloma

Explanation

The most likely diagnosis is that of a basal cell carcinoma (BCC). This is the most common non-melanoma skin malignancy. Nodular cutaneous amyloid is a differential even in this age group but is so rare that it certainly doesn't constitute as the most likely diagnosis. BCCs or rodent ulcers most commonly occur in middle-aged or elderly fair-skinned individuals who have experienced extensive sun exposure regardless of the form. Most occur on the face, but they do sometimes occur on the limbs and trunk. It usually starts as a small translucent papule with obvious telangiectasia over the surface. It gradually increases in size, developing into a firm, tethered nodule, when the centre may ulcerate and crust. Treatment is complete excision with a margin of normal skin.

6318

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A 26-year-old gentleman has been complaining of severe itching over his elbows (see figure), lower back and his scalp. He has noticed some weeping lesions on his scalp. When questioned he also admits to feeling more tired recently.



What is the diagnosis?

A	Bullous pemphigoid
B	Scabies
C	Atopic eczema
D	Dermatitis herpetiformis
E	Psoriasis

6319

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Normal Values

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A 26-year-old gentleman has been complaining of severe itching over his elbows (see figure), lower back and his scalp. He has noticed some weeping lesions on his scalp. When questioned he also admits to feeling more tired recently.



What is the diagnosis?

A	Bullous pemphigoid
B	Scabies
C	Atopic eczema
D	Dermatitis herpetiformis
E	Psoriasis

Explanation

Dermatitis herpetiformis is a disease of young adults and presents with severe itching especially at night. Lesions in dermatitis herpetiformis have a characteristic distribution very similar to that of psoriasis, involving the extensor aspects of limbs, the buttocks and the natal cleft. Often the blisters are not obvious and the disease may present as excoriated papules. It can easily be confused with eczema on examination. It is important to diagnose as it is associated with a gluten-enteropathy. The diagnosis can be confirmed by finding anti-gliadin antibodies in the blood and characteristic immunoglobulin A (IgA) deposits on the upper surface of the dermis on immunofluorescence of normal skin. Initial treatment is with dapsone which will stop the itching within a few hours. A gluten-free diet will eradicate the IgA from the dermal papillae in 9–12 months and the itching will stop.

6319

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Responses Correct:	0
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A 26-year-old lady presents with an enlarging 6 cm firm hypopigmented patch at the umbilicus which had appeared shortly after she had her belly-button pierced the previous year. She is anxious about it as it appears to be enlarging and now she can't wear any jewellery at the site.

She has no other skin lesions elsewhere and no other medical problems. She takes no medications regularly and has no allergies. She is smoker of 20/day and drinks alcohol occasionally.

What is the diagnosis?

A	Tinea corporis
B	Post-inflammatory hypopigmentation
C	Vitiligo
D	Lichen planus
E	Localised scleroderma

6320

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Calculator

Normal Values

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A 26-year-old lady presents with an enlarging 6 cm firm hypopigmented patch at the umbilicus which had appeared shortly after she had her belly-button pierced the previous year. She is anxious about it as it appears to be enlarging and now she can't wear any jewellery at the site.

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What is the diagnosis?

A	Tinea corporis
B	Post-inflammatory hypopigmentation
C	Vitiligo
D	Lichen planus
E	Localised scleroderma

Explanation

Morphoea (localised scleroderma) is a localised thickening of the dermis due to excess collagen with loss of appendages (sweat glands and hair follicles). It occurs at any age (peak incidence 20–40 years) and is more common in females. The lesions are firm oval plaques with a shiny smooth surface. The edge can be purple or brown. It feels thickened compared to the surrounding skin. Rarely, it may be linear. It can occur after skin trauma and radiation, and patients with existing scleroderma are at risk of developing further lesions at sites of subsequent trauma. These patients should be advised of the further risk of localised disease when considering cosmetic piercings. The lesions usually resolve spontaneously over time, but sometimes topical steroids can be helpful in the inflammatory stage.

6320

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A 42-year-old Egyptian gentleman has had a number of spots on his nose for over 10 years. He was seen when in Cairo by his regular doctor who told him there was little he could do about the end of his nose which had got considerably worse in appearance over the past few months. It doesn't give him any trouble but he finds it unsightly.



What is the diagnosis?

A	Cutaneous leishmaniasis
B	Lupus pernio
C	Lupus vulgaris
D	Basal cell carcinoma
E	Squamous cell carcinoma

6321

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Calculator

Normal Values

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A 42-year-old Egyptian gentleman has had a number of spots on his nose for over 10 years. He was seen when in Cairo by his regular doctor who told him there was little he could do about the end of his nose which had got considerably worse in appearance over the past few months. It doesn't give him any trouble but he finds it unsightly.



What is the diagnosis?

A	Cutaneous leishmaniasis
B	Lupus pernio
C	Lupus vulgaris
D	Basal cell carcinoma
E	Squamous cell carcinoma

Explanation

This gentleman has lupus vulgaris as a result of mycobacterium tuberculosis infection. It is a chronic tuberculous infection of the skin. It is exceedingly rare these days. Treatment is the same as that for pulmonary tuberculosis.
Basal cell and squamous cell carcinomas that become infiltrated will be ulcerated and do not progress so rapidly. Lupus pernio occurs in patients with sarcoid commonly those of African-Caribbean origin. It is usually mauve/purple in colour. Cutaneous leishmaniasis occurs after a flu-like illness when patients develop papules which can ulcerate on the trunk. The incubation time is 7 days to a few months.

6321

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A 4-year-old boy presents with a spreading rash affecting his lower face.



He feels unwell and his mother tells you that he has been irritable over the last few days with reduced appetite. He has no previous history of skin disease. He takes no regular medications. On examination he has crusting lesions over his chin and left cheek. There in no oral involvement. General examination reveals no abnormalities.

What is the best management?

A	Intravenous flucloxacillin
B	Oral flucloxacillin
C	2% fusidic acid topically
D	Flamazine topically
E	Oral penicillin V

6322

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Calculator

Normal Values

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He feels unwell and his mother tells you that he has been irritable over the last few days with reduced appetite. He has no previous history of skin disease. He takes no regular medications. On examination he has crusting lesions over his chin and left cheek. There in no oral involvement. General examination reveals no abnormalities.

What is the best management?

A	Intravenous flucloxacillin
B	Oral flucloxacillin
C	2% fusidic acid topically
D	Flamazine topically
E	Oral penicillin V

Explanation

This young boy has impetigo which is a very superficial infection of the epidermis due to Staphylococcus aureus, a group A beta-haemolytic streptococcus or a mixture of both. Children are mainly affected since the organisms gain entrance through broken skin (cuts and grazes). It is very contagious. Typically it starts as vesicles, which rapidly break down to form honey-coloured crusts; less commonly there may be just a glazed erythema. Because the infection is very superficial, topical antibiotics are more effective than systemic. Once thick crust is removed, topical antibiotics such as 2% mupirocin (Bactroban), 2% fusidic acid (Fucidin) or 0.3% neomycin ointment should be used. It should also be applied to the anterior nares at the same time. Oral penicillin V is useful in parts of the world where impetigo is due to a group A beta-streptococcus, to prevent acute glomerulonephritis occurring.

6322

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A 56-year-old lady presents with the following lesion on her shoulder which she has thinks she has had all her life. Her husband has noticed it has grown in size over the last few months. It is not itchy nor has it ever bled.



She has no other medical problems and takes no regular medications.

What is the diagnosis?

A	Pigmented basal cell carcinoma
B	Dysplastic naevus
C	Benign lentigo
D	Superficial spreading melanoma
E	Lentigo maligna

6323

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Calculator

Normal Values

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What is the diagnosis?

A	Pigmented basal cell carcinoma
B	Dysplastic naevus
C	Benign lentigo
D	Superficial spreading melanoma
E	Lentigo maligna

Explanation

A malignant melanoma is a malignant tumour of the melanocytes. Two-thirds arise from normal skin and one-third arise from a pre-existing mole. Superficial spreading malignant melanomas occur as malignant melanocytes migrate laterally along the dermo-epidermal junction, and have a good prognosis. It is important to diagnose melanomas while they are thin so that removal results in cure. Pigmented basal cell carcinoma (BCCs) are heavily pigmented lesions but have the appearance of a BCC – nodules with rolling edges. Benign lentigo is represented by a small pigment spot which is sharply circumscribed and surrounded by normal looking skin. In contrast, lentigo maligna is characterised by an area of pigmentation which is poorly circumscribed and it's much more difficult to see the contrast versus normal skin.

6323

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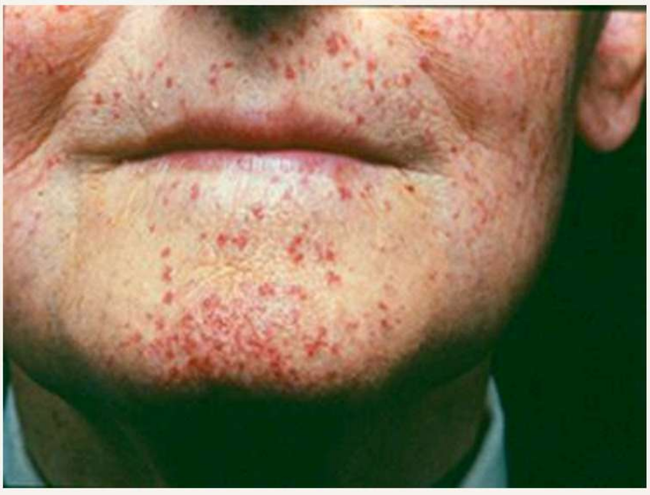
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A 58-year-old gentleman has an asymptomatic rash on his face, which has been present for years. He is well in himself though has a history of iron deficiency anaemia.



He says that he feels fit and well. He takes amlodipine, pravastatin and ferrous sulphate regularly.

What is the diagnosis?

A	Hereditary haemorrhagic telangiectasia
B	Peutz–Jegher syndrome
C	Limited systemic sclerosis
D	Idiopathic thrombocytopenia purpura
E	Rosacea

6324

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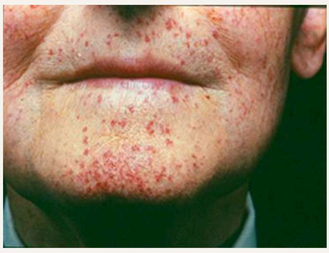
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Normal Values

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What is the diagnosis?

A	Hereditary haemorrhagic telangiectasia
B	Peutz–Jegher syndrome
C	Limited systemic sclerosis
D	Idiopathic thrombocytopenia purpura
E	Rosacea

Explanation

A	Hereditary haemorrhagic telangiectasia

This is an autosomal, dominantly inherited condition. Small dilated blood vessels manifest as red macules and papules, visible around the mouth, and on the lips and fingers. Lesions also occur on mucous membranes and in the gastrointestinal tract: these may be associated with severe epistaxis and gastrointestinal bleeding. Anaemia due to bleeding is treated with oral iron. The cutaneous involvement does not need any treatment, although vascular lasers are usually effective for symptomatic lesions.

B	Peutz–Jegher syndrome

This is another rare, genetically determined condition that is characterised by pigmented macules on the lips, the skin around the mouth and the fingers and toes, occurring early in childhood. It is associated with small bowel polyps, which can cause intussusception. The gene confers a high risk of developing internal cancers, not only developing from intestinal polyps, but also in many other organs.

C	Limited systemic sclerosis

This used to be termed CREST syndrome (calcinosis, Raynaud's phenomenon, oesophageal dysmotility, sclerodactyly or telangiectasia). Facial telangiectasia, including of the oral mucosa, is a feature, but the absence of other symptoms or signs in this case makes HHT a better response.

D	Idiopathic thrombocytopenia purpura

Any cause of thrombocytopenia may result in purpura, but the discrete, fixed lesions confined to the face seen here are more in keeping with telangiectasia.

E	Rosacea

This is an acneiform disorder which usually presents with facial papules and pustules. These may be on a background of diffuse telangiectasia. The discrete lesions shown in the image, with an absence of inflammatory changes, are more suggestive of HHT.

6324

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A 5-year-old boy presents with a 6-month history of an itchy scalp. It began as a few discrete scaly lesions on his scalp. He was then prescribed griseofulvin by his general practitioner, which he took for a month. Since then he has continued to have itching and scaling over the scalp. His mother is very anxious as she thinks his hair is thinning in places. More recently his 8-year-old sister has been scratching her scalp too.

On examination there is extensive scaling with excoriations in some areas. There is associated mild, patchy alopecia but no visible inflammation. There are no rashes elsewhere nor nail changes.

What is the correct diagnosis?

A	Eczema
B	Head lice
C	Psoriasis
D	Scabies
E	Tinea capitis

6325

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Calculator

Normal Values

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What is the correct diagnosis?

A	Eczema
B	Head lice
C	Psoriasis
D	Scabies
E	Tinea capitis

Explanation

E	Tinea capitis

The presentation is typical of tinea capitis or scalp ringworm. This dermatophyte infection mostly occurs in younger children. Pruritus is variable. The level of inflammation depends to some extent on the causative organism. Scaling and alopecia are typical features. The infection is contagious so it is not surprising that a sibling has been affected. Topical treatment is ineffective for tinea capitis, though ketoconazole shampoo is used to reduce the chances of transmission. Griseofulvin is fungistatic, so a prolonged course of 2-4 months is required. Although not licensed in young children, a four-week course of the fungicidal drug terbinafine is often preferred.

A	Eczema

It would be unusual for this to affect only the scalp and it does not give rise to alopecia.

B	Head lice

Whilst this is a common infestation in children and associated with much pruritus, it does not give rise to focal alopecia.

C	Psoriasis

This presents with marked erythema or very pronounced scaling; alopecia is very unusual.

D	Scabies

This presents with much more widespread pruritus and, except in young babies or very incapacitated adults, spares the scalp.

6325

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A 19-year-old female presents with a rash over her left buttock, which has been present for about two months. She finds it terribly itchy and it has been increasing in size recently. She has just returned from a gap year travelling around the USA. She has a history of atopic eczema as a child. She feels well in herself otherwise. She is a non-smoker and drinks alcohol socially. She takes no regular medications and has no allergies.



What is the best treatment option in the first instance?

A	Moderately potent topical steroids
B	Dithranol ointment
C	Terbinafine cream
D	Oral doxycycline
E	Oral itraconazole

6326

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Calculator

Normal Values

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A	Moderately potent topical steroids
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C	Terbinafine cream
D	Oral doxycycline
E	Oral itraconazole

Explanation

C Terbinafine cream

This lady has tinea corporis. This is due to dermatophyte fungi of the *Microsporum*, *Trichophyton* or *Epidermophyton* species. It typically presents with a unilateral annular plaque. The border is scaly with occasional small pustules. Pruritus can range from minimal to severe. Skin scrapings should be taken to allow mycological confirmation of the diagnosis before starting treatment. Fungicidal drugs such as terbinafine or imidazoles (e.g. ketoconazole, itraconazole) are effective. For localised disease as seen here, topical treatment is preferred due to a lower risk of adverse effects. Oral treatment is usually reserved for widespread, complicated or resistant cases.

A Moderately potent topical steroids

Fungal infection may worsen on application of topical corticosteroids due to their locally immunosuppressive effects. The classical appearance may also be lost, leading to so-called 'tinea incognito'. This can make the diagnosis more difficult and further delay appropriate treatment.

B Dithranol ointment

This is an antimitotic agent used in the treatment of psoriasis. This condition is usually symmetrical and rarely presents with a solitary plaque. Its scaling is much coarser and an annular configuration is not usually observed.

D Oral doxycycline

This antibiotic can be used for acne, rosacea and bacterial skin infections. However, the features in the photograph suggest none of these diagnoses.

E Oral itraconazole

This or oral terbinafine would be appropriate for more widespread disease, cases unresponsive to topical treatment or perhaps in the context of immunosuppression. For first-line treatment in this scenario, topical therapy is a better option.

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A 79-year-old woman presents with a 6-month history of a widespread itchy rash.



It affects the forearms and hands mainly, but there are similar ill-defined erythematous lesions on the trunk, particularly around the nipples. Her face is unaffected. She lives in a residential home. She feels well in herself otherwise. In addition to her long-term medications, simvastatin and felodipine, she has been taking zopiclone tablets recently prescribed by her general practitioner, to help her sleep.

What is the diagnosis?

A	Folliculitis
B	Drug eruption
C	Atopic eczema
D	Scabies
E	Cutaneous T-cell lymphoma

6327

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Calculator

Normal Values

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What is the diagnosis?

A	Folliculitis
B	Drug eruption
C	Atopic eczema
D	Scabies
E	Cutaneous T-cell lymphoma

Explanation

D Scabies

The widespread, itchy eruption, which is worst on the hands, best fits with this diagnosis. Scabies is an infestation with the human scabies mite, *Sarcoptes scabiei*. It is transmitted by close contact so is often spread between family members, at nurseries and in care institutions. Symptoms occur 4-6 weeks after initial infestation, when hypersensitivity occurs to the mite or its waste products. Scabies is characterised by intense itching, particularly at night. This can lead to prominent excoriation. Burrows (linear crusted lesions of a few millimetres in length) are pathognomonic and penile papules are also highly suggestive, though not always evident. It has a predilection for the web-spaces and around the nipples. Secondary eczematisation is not uncommon, as in this case. Scalp involvement only occurs in young babies and very debilitated adults. Treatment is usually with permethrin; close contacts should be treated concurrently.

A Folliculitis

This infection, usually due to *Staphylococcus aureus*, is characterised by pustules.

B Drug eruption

The rash does not look suggestive of this. Drug eruptions are typically exanthematous (with a maculopapular morphology), and eczematous features are unusual.

C Atopic eczema

Eczema (in general) may appear at any age, but with no specific pointers to atopy (e.g. history of asthma, childhood eczema, hay fever) and no suggestion of flexural accentuation of the rash, this option is not likely.

E Cutaneous T-cell lymphoma

This may present in a variety of ways, including an eczematous eruption. It usually gives rise to well-defined plaques rather than the much more diffuse picture seen here. Sézary syndrome tends to present with erythroderma, in which the skin is deeply erythematous.

6327

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A 32-year-old Nigerian gentleman presents with the intensely itchy rash on his neck, shown in the image. He has similar lesions on the trunk and small hyperpigmented papules on his forearms and wrists.



He gives a 6-month history of these lesions and recently he returned from a trip to Nigeria. He feels well in himself otherwise. He remembers having tuberculosis as a child and was treated for it in Nigeria.

What is the diagnosis?

A	Nodular prurigo
B	Cutaneous tuberculosis infection
C	Lichen planus
D	Kaposi's sarcoma
E	Keloid scars

6328

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Calculator

Normal Values

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He gives a 6-month history of these lesions and recently he returned from a trip to Nigeria. He feels well in himself otherwise. He remembers having tuberculosis as a child and was treated for it in Nigeria.

What is the diagnosis?

A	Nodular prurigo
B	Cutaneous tuberculosis infection
C	Lichen planus
D	Kaposi's sarcoma
E	Keloid scars

Explanation

C	Lichen planus

Classical lichen planus is characterised by itchy, violaceous, polygonal, flat-topped papules most commonly developing over the wrists and ankles. A pale, lacy network is often found in the mouth, though this may be asymptomatic. The presence of Wickham's striae – a fine, white lacy pattern over the papules – is characteristic. The Koebner phenomenon is typically seen in lichen planus (whereby the rash 'colonises' sites of trauma a few days later). Lichen planus has been associated with liver disease including hepatitis C, primary biliary cirrhosis and chronic active hepatitis. It usually resolves in 6–18 months. It often responds to potent or very potent topical steroid, but some patients will require oral prednisolone. Lesions tend to resolve to leave deep post-inflammatory hyperpigmentation, especially in darker skin-types.

The hypopigmentation seen in this case is attributable to scratching.

A	Nodular prurigo

This condition is sometimes associated with underlying eczema. Like lichen planus, it is intensely itchy. Nodular lesions are found most commonly on the legs but can occur anywhere on the body. The lesions on the image are plaques rather than nodules; papules on the wrists are often seen in lichen planus.

B	Cutaneous tuberculosis infection

There are various possible manifestations of tuberculosis infection in the skin, but none would be expected to be intensely pruritic.

D	Kaposi's sarcoma

This presents with red, purple or brown cutaneous nodules or plaques, which are usually asymptomatic.

E	Keloid scars

Although spontaneous keloids are recognised, the eruption here is too widespread for this and involves sites such as the wrists, where keloids would be most unexpected. Keloids usually have a smooth surface and form nodules or very thickened plaques. Associated itching is not usually severe.

6328

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A 34-year-old gentleman is admitted to hospital feeling breathless on minimal exertion.

While examining him you notice the rash in the image – he tells you that occasionally it is itchy but it has been there for at least 4 years. He has a family history of vitiligo.



He is a non-smoker and drinks no alcohol. He takes no medications regularly and has no allergies. Physical examination apart from the rash is normal. He is keen to improve the appearance.

What is the best management option?

A	Wash with ketoconazole shampoo
B	Referral to a dermatologist for skin biopsy
C	Moderate-potency topical corticosteroid
D	Reassure the patient and advise no treatment is available
E	Oral prednisolone

6329

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Calculator

Normal Values

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A 34-year-old gentleman is admitted to hospital feeling breathless on minimal exertion.

While examining him you notice the rash in the image – he tells you that occasionally it is itchy but it has been there for at least 4 years. He has a family history of vitiligo.



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B	Referral to a dermatologist for skin biopsy
C	Moderate-potency topical corticosteroid
D	Reassure the patient and advise no treatment is available
E	Oral prednisolone

Explanation

A Wash with ketoconazole shampoo

This diagnosis here is pityriasis versicolor. This is caused by overgrowth of the (usually) commensal yeast, *Malassezia furfur*. It typically presents in young adults in warm weather or after a sunny holiday, with asymptomatic hypo- or sometimes hyperpigmented macules with very fine peripheral scaling. It is usually confined to the trunk. The diagnosis should be confirmed mycologically on a skin scraping. It may respond to topical antifungal treatment, such as washing with ketoconazole shampoo. Other options include antifungal creams, or itraconazole 200 mg once daily for a week. Patients should be advised that the pigmentation may take months to return to normal after successful treatment.

Pityriasis versicolor is sometimes confused with vitiligo. The latter causes depigmentation rather than hypopigmentation, usually affecting much larger areas than the 1 cm lesions of pityriasis versicolor. The hands, face and genitalia are fairly commonly affected in vitiligo, but not in pityriasis versicolor. Scaling does not occur in vitiligo.

B Referral to a dermatologist for skin biopsy

This condition is usually a simple clinical diagnosis which can be confirmed via a skin scraping.

C Moderate-potency topical corticosteroid

Topical steroids are ineffective for this condition and might make it worse.

D Reassure the patient and advise no treatment is available

Whilst reassurance is appropriate, pityriasis versicolor can usually be treated fairly simply, though it may recur.

E Oral prednisolone

This has no role in the treatment of a yeast infection.

6329

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Responses Correct:	0
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A 67-year-old lady undergoes a right total hip operation under the orthopaedic surgeons. They contact you when she is seen in the follow-up clinic with an ulcer over the operation scar. Wound swabs and blood cultures showed no growth. Over the last week the ulcer has grown in size despite the patient taking flucloxacillin 250 mg qds. The patient is now also taking strongly potent analgesics to manage the pain.
In her past medical history she has suffered from hypertension and rheumatoid arthritis. She is a non-smoker and drinks almost no alcohol. She has no allergies.
The dermatologist is contacted and a skin biopsy is taken.

What is the next step in her management?

A	Revision of operation
B	Flucloxacillin 500 mg qds po
C	Benzylpenicillin 1.2 g qds and flucloxacillin 1 g qds intravenously
D	Prednisolone 60 mg od
E	Conservative measures only

6330

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C	Benzylpenicillin 1.2 g qds and flucloxacillin 1 g qds intravenously
D	Prednisolone 60 mg od
E	Conservative measures only

Explanation

This lady has developed pyoderma gangrenosum over the site of surgery – demonstrating pathergy. Pyoderma gangrenosum is a necrotising condition causing skin ulceration, and commonly occurs at sites of trauma. Its association with conditions such as rheumatoid arthritis is well documented. The diagnosis should always be considered in non-healing sterile ulcers, particularly when other risk factors are present. High-dose steroids will cause good resolution of the condition.

6330

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Responses Total:	32
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A 32-year-old male patient who smokes one packet of cigarettes per day is referred by his dentist. He has noticed whitish areas over the side of the tongue (see picture), which do not come away when the tongue is brushed.



What is the most likely diagnosis?

A	Oral hairy leucoplakia
B	Candidiasis
C	Squamous cell carcinoma
D	Lichen planus
E	Syphilitic mucous patch

6349

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B	Candidiasis
C	Squamous cell carcinoma
D	Lichen planus
E	Syphilitic mucous patch

Explanation

A Oral hairy leucoplakia

This is an oral mucosal disease first described in 1984; it is associated with Epstein–Barr virus (EBV) and occurs almost exclusively in patients who are immunocompromised, particularly those infected with HIV. As well as being a sign of AIDS, it has also been described in association with inflammatory bowel disease and Behçet's disease. It is non-painful, and the appearance of the white plaque may change slightly from day to day. Smoking more than a pack of cigarettes a day is correlated positively with development of OHL in men who are HIV-positive. The risk of developing OHL doubles with each 300-unit decrease in CD4 count. Diagnosis is clinical, though biopsy may be helpful in some cases to exclude dysplasia or malignancy. Treatment is of the underlying disorder, most often with anti-retroviral therapy.

B Candidiasis

This is associated with more extensive adherent white plaques. Typically, these can be removed by brushing to leave an eroded, red area.

C Squamous cell carcinoma

Whilst smoking is an important risk factor for oral cancer, it usually presents with a discrete lesion, which may be ulcerated.

D Lichen planus

The Wickham's striae of oral lichen planus form a reticular white network, rather than the solid plaques seen here.

E Syphilitic mucous patch

This occurs in secondary syphilis, typically presenting as a grey or white plaque. It may be solitary or multiple. Coalescence may result in classical 'snail-track' ulceration.

6349

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A 50-year-old lady is admitted for resection of a frontal lobe tumour.

The lesion shown in the image was noted on her back by the admitting doctor.



What is the likely diagnosis?

A	Melanoma
B	Seborrhoeic keratoses
C	Café au lait macule
D	Neurofibroma
E	Acanthosis nigricans

6350

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A 50-year-old lady is admitted for resection of a frontal lobe tumour.

The lesion shown in the image was noted on her back by the admitting doctor.



What is the likely diagnosis?

A	Melanoma
B	Seborrhoeic keratoses
C	Café au lait macule
D	Neurofibroma
E	Acanthosis nigricans

Explanation

B	Seborrhoeic keratoses

This is an extremely common, harmless skin lesion that first appears during adult life – it is the commonest benign tumour in older individuals. It has also been referred to as basal cell papilloma, senile wart or brown wart. Seborrhoeic keratosis is often initially flat, but becomes raised over time. It may be seen as cosmetically unattractive. Most are asymptomatic, though some itch. Elevated lesions may become traumatised, causing local discomfort. The number of such lesions tends to increase with age. Some individuals have hundreds. The cause is unknown. In terms of the appearance, colour can range from skin-coloured to very dark brown. They are very well defined, and elevated lesions develop a cobblestoned or verrucous surface, as shown in the image. Treatment is not usually necessary, though cryotherapy or curettage may be performed for symptomatic lesions.

A	Melanoma

Although this lesion is hyperpigmented, it has typical features of seborrhoeic keratosis.

C	Café au lait macule

In accordance with the term macule, these are impalpable lesions of tan hyperpigmentation.

D	Neurofibroma

Whilst these may be numerous in neurofibromatosis, they may present as a solitary, sporadic lesion. They are skin-coloured, soft and fleshy, with a smooth surface.

E	Acanthosis nigricans

This causes velvety hyperpigmentation in the flexures, rather than the discrete lesion seen here.

6350

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Responses Total:	36
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A 35-year-old farmer presents with a rash over his back, face, neck and forearms. He has a history of pulmonary TB as a child, but no other medical history of note. In the last week he has felt that his knees and hands have been stiff and painful.

The appearance of the rash is shown below.



What is the most likely diagnosis?

A	Lyme disease
B	Lupus vulgaris
C	Discoid lupus erythematosus
D	Psoriasis
E	Cattle ringworm

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What is the most likely diagnosis?

A	Lyme disease
B	Lupus vulgaris
C	Discoid lupus erythematosus
D	Psoriasis
E	Cattle ringworm

Explanation

C	Discoid lupus erythematosus

This is a chronic, scarring, photosensitive dermatosis. Up to 28% of patients with DLE may later develop systemic lupus erythematosus (SLE), and DLE can occur as a feature of SLE. DLE usually presents without significant systemic features. The findings are typically of erythematous, scaly plaques on sun-exposed areas, particularly the face and scalp. Lesions heal with scarring and can result in significant alopecia on the scalp. Dyspigmentation can be prominent, especially in darker skin types. Pruritus and a stinging sensation are variable and some individuals are asymptomatic. The diagnosis can be confirmed on skin biopsy. In the absence of SLE, autoantibodies are usually negative. Treatment is with sun protection and very potent topical corticosteroids; refractory cases will require oral antimalarial agents and sometimes systemic immunosuppressive therapy.

A	Lyme disease

The initial skin manifestation of Lyme disease is erythema chronicum migrans, which presents as an expanding annular lesion centred around the site of the infecting tick bite.

B	Lupus vulgaris

This presents as a solitary, very slowly enlarging, infiltrating plaque, rather than the multifocal eruption in the image.

D	Psoriasis

The distribution described in this scenario suggests a photosensitive eruption rather than psoriasis. The lesions in the photograph are more irregular than would be expected in psoriasis. A closer view would help to confirm that there is no silvery scale.

E	Cattle ringworm

Animal ringworm (dermatophyte infection) tends to be more inflammatory than the usual strains causing disease in humans. It would still usually present as a solitary plaque at the site of inoculation and not the more widespread eruption described in the scenario.

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A 49-year-old man presents with a 3-month history of painful mouth ulcers. He also mentions intermittent diarrhoea, and occasional colicky abdominal pain. Until a year ago his general health had been good, but he has felt generally unwell recently with diffuse aches and pains, and 6 months ago he required ophthalmological investigation and treatment for anterior uveitis. At this time he also developed superficial venous thrombophlebitis at 2 different venepuncture sites.

These oral lesions are noted on examination (see picture below):



What is the most likely diagnosis?

A	Behçet's disease
B	Crohn's disease
C	Ulcerative colitis
D	Coeliac disease
E	Sarcoidosis

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What is the most likely diagnosis?

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E	Sarcoidosis

Explanation

A	Behçet's disease

Recurrent painful oral aphthous ulcers are the most common lesions associated with Behçet's disease and occur in 99.3% of cases. Genital ulcers may also be present. At least 50% of patients who have Behçet's disease also develop gastrointestinal erosions and ulcers that may cause abdominal pain, melaena, and even perforation.

This constellation of intestinal signs and symptoms may simulate Crohn's disease and other inflammatory bowel disorders. However, a distinguishing feature between the two conditions is the phenomenon of pathergy (a condition in which minor trauma can lead to the development of further blistering lesions), which is characteristic of Behçet's syndrome.

Ocular involvement is seen in about 70% of patients; most often in the form of anterior or posterior uveitis. Other manifestations include musculoskeletal (arthralgias/arthritis in 50%); skin (erythema nodosum, acneiform lesions, thrombophlebitis, and cutaneous hypersensitivity); central and peripheral nervous system lesions; and vascular lesions. The vascular involvement in Behçet's syndrome is unique in that it is the only vasculitic disease that involves both the arterial and venous systems, and typically presents as superficial thrombophlebitis or deep venous thrombosis. The cause and pathogenesis of Behçet's disease remain unknown, but the tumour necrosis factor alpha (TNF-alpha) pathway is likely implicated.

B	Crohn's disease

Extraintestinal involvement of Crohn's could lead to similar symptoms; however bowel symptoms would be the predominant feature and superficial thrombophlebitis would not be typical.

C	Ulcerative colitis

As with Crohn's disease, the symptoms of ulcerative colitis (UC) may be similar but are usually intestine predominant. Additional commonly encountered extraintestinal symptoms of UC and Crohn's disease include arthritis, erythema nodosum, and pyoderma gangrenosum.

D	Coeliac disease

Coeliac disease is associated with diarrhoea, abdominal cramping and bloating. The commonest cutaneous manifestation is of dermatitis herpetiformis.

E	Sarcoidosis

Sarcoidosis is a granulomatous disorder that can affect multiple organs. Common manifestations include: fatigue, loss of weight, interstitial lung disease, erythema nodosum, lupus pernio, conductive cardiac abnormalities, and uveitis.

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Responses Incorrect:	38
Responses Total:	38
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A 30-year-old overweight mechanic, who is otherwise well with no other symptoms, presents with an intensely itchy rash over both elbows. He denies any significant past medical history but admits to drinking 2 pints of lager on a daily basis.



What is the best initial management for relief of his symptoms?

A	Beclomethasone cream
B	Dapsone
C	Dithranol
D	Patch testing for occupational allergy
E	Gluten free diet

6353

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B	Dapsone
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D	Patch testing for occupational allergy
E	Gluten free diet

Explanation

B	Dapsone

The picture shows dermatitis herpetiformis (DH), an immune-mediated blistering skin disease with an associated, commonly asymptomatic, gluten-sensitive enteropathy (GSE). The rash is characteristically very itchy with blistering lesions over the extensor surfaces. Although all patients with DH by definition have gluten-sensitive enteropathy, fewer than 10% of patients have gastrointestinal symptoms.

Histologically there is granular deposition of immunoglobulin A (IgA) at the dermal–epidermal junction of the skin. IgA-circulating immune complexes are present in 25–35% of patients with DH, although no association with disease severity has been noted. These immune complexes also have been noted in patients with isolated GSE, and are likely linked to the presence of enteric disease.

First-line treatment is with dapsone, which brings rapid improvement in most A gluten-free diet may also improve or control the symptoms in some patients with DH, especially as a long-term measure (eventually allowing discontinuation of dapsone). However, it requires motivation, as the diet may be unpalatable and difficult to adhere to.

A	Beclomethasone cream

Topical corticosteroids are not used in the treatment of DH.

C	Dithranol

Dithranol is a topical agent, commonly used in the treatment of plaque psoriasis, and is not used in the management of DH.

D	Patch testing for occupational allergy

Patch testing is used to test for contact allergic dermatitis, and and does not form part of the management of DH.

E	Gluten free diet

Narrow-band UVB phototherapy is used in the management of many cutaneous disorders such as eczema and psoriasis, but not in the treatment of DH.

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Responses - % Correct:	0%

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A 24-year-old lady is brought to the emergency department with malaise, fatigue, and night sweats. She denies any past medical history but agrees to drinking excessively and having no fixed abode. On examination she has a temperature of 37.7 °C and tiny black streaks on her nails. This cutaneous lesion was also noted on examination:



What is the most likely cause for her symptoms?

A	Cerebral vasculitis
B	Infective endocarditis
C	Toxic shock syndrome
D	Heroin overdose
E	Meningococcal sepsis

6354

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D	Heroin overdose
E	Meningococcal sepsis

Explanation

B	Infective endocarditis

Infective endocarditis is a well known association in patients who inject heroin as in this case. Common symptoms include: fever, malaise, heart murmurs, and septic emboli (splinter haemorrhages, Janeway lesions).

A	Cerebral vasculitis

Cerebral vasculitis leads to a wide range of symptoms, such as headaches, skin rashes, tiredness, joint pains, weakness, and alterations in behaviour. In addition, in 10% it can lead to intracranial haemorrhage.

C	Toxic shock syndrome

Toxic shock syndrome is a potentially fatal illness caused by bacterial toxins. Patients are pyrexic with signs of haemodynamic compromise (tachypnoea, hypotension, and tachycardia).

D	Heroin overdose

The skin lesions represent needle marks from intravenous (iv) injections (track marks) that indicate intravenous drug use. However, the patient doesn't have any more signs of opiate overdose such as miosis or drowsiness. Non-fatal overdose is common among heroin injectors and is strongly related to the misuse of multiple other substances such as methadone, benzodiazepines, and alcohol.

E	Meningococcal sepsis

Meningococcal sepsis causes generic signs of infection (fever, malaise, haemodynamic instability) in addition to focal signs depending on the organ that has been affected (i.e. photosensitivity in meningitis or cough in pneumonia).

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Responses Correct:	0
Responses Incorrect:	40
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A 27-year-old man presented to his GP complaining of a rash in his groin. He had recently returned from a long trip overseas and had been treated for this rash by a cream given to him by a pharmacist in Bangkok. The patient thought it was an allergic reaction and so had asked for an appropriate cream but application of this cream had only made the rash worse. The patient reports that the rash has been quite itchy from the start. On examination, the rash has a scaly and raised sharp red border and spreads asymmetrically down the inner aspect of the thighs but does not involve the scrotum. The rash is slightly raised and is clearer centrally.

What would be the most appropriate clinical investigation, if any, to perform in order to aid the diagnosis?

A	Skin prick testing
B	RAST test
C	Bacterial skin swab
D	Direct microscopic examination of KOH-treated skin scrapings
E	Autoimmune profiling

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Explanation

D	Direct microscopic examination of KOH-treated skin scrapings

Tinea cruris, also known as ringworm of the groin, is a dermatophyte infection that is more commonly seen in men. It is transmitted via both direct contact between infected individuals and indirect contact with contaminated objects such as towels, bed linens and clothing. The affected area is sharply demarcated and has a scaly raised red border that spreads down the inner thighs from the groin in a symmetrical fashion, but asymmetrical involvement may also occur. The scrotum is usually spared in distinct contrast with infections of this area by Candida. In acute infections, the rash may be moist and exudative and patients may complain of intense pruritus. Microscopic examination of a potassium hydroxide (KOH) treated skin scraping is diagnostic and reveals the typical long branch-like structure of the fungus. This patient was given a steroid cream from the pharmacist that exacerbated the fungal infection.

A	Skin prick testing

Skin prick testing is performed by piercing the skin with a needle or pin containing a small amount of allergen. It is conventionally used to investigate immediate type hypersensitivity to allergens in patients with rhinoconjunctivitis, contact urticaria, asthma, atopic eczema, and suspected food allergy. It has the advantage of being relatively inexpensive, providing immediate results compared with measurement of serum allergen specific IgE by RAST. In this case, symptoms are typical of dermatophyte infection and therefore initial investigations should reflect that.

B	RAST test

A radioallergosorbent test (RAST) is a blood test used to detect specific IgE antibodies, to determine the substances a patient is allergic to. This is different from patch and skin prick testing that determine allergy by the reaction of a person's skin to different substances.

C	Bacterial skin swab

The symptoms described are not suggestive of a bacterial skin infection. Common bacterial skin infections include: impetigo (golden coloured crusting that may be associated with blistering), erysipelas and cellulitis (sharply and diffuse erythematous lesions respectively that are hot to touch, and can be associated with ulceration).

E	Autoimmune profiling

The presenting symptoms are not suggestive of an autoimmune condition.

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A GP has referred a 19-year-old male refugee to the general medical clinic for an opinion. The patient's use of English is limited and no obvious medical history is elicited from the patient. The patient is on no medication. The patient appears to be developmentally normal. On examination, the patient is noted to be fair skinned with white hair, he has white eyelashes and both irises have a pink hue.

What is the likely diagnosis?

A	Ocular albinism
B	Oculocutaneous albinism, type 1
C	Oculocutaneous albinism, type 3
D	Homocystinuria
E	Phenylketonuria

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E	Phenylketonuria

Explanation

B	Oculocutaneous albinism, type 1

Oculocutaneous albinism type 1 (OCA 1) presents with the complete absence of melanin in the hair, skin and eyes (subtype OCA 1A). Other symptoms and signs include photophobia, loss of visual acuity, and nystagmus. A different subgroup of OCA 1 (OCA 1B) can present with some pigmentation in these same tissues and therefore fewer eye problems. The remaining forms of oculocutaneous albinism reflect an increased presence of melanin in tissues.

A	Ocular albinism

Albinism is a hypopigmentation disorder that results from a defect in the production of melanin. Types of albinism include: oculocutaneous albinism types 1–4, ocular albinism, Chediak–Higashi syndrome, Hermansky–Pudlak syndrome and Griscelli syndrome.

Ocular albinism patients usually have almost normal skin and hair colour. However, their skin and hair tend to be lighter than their siblings (this feature becomes particularly apparent in darker-skinned populations). Almost all of these patients have iris transillumination defects and present with congenital nystagmus that may be accompanied by reduced visual acuity, refractive errors, fundus hypopigmentation, lack of foveal reflex and strabismus.

C	Oculocutaneous albinism, type 3

Affected individuals typically have reddish hair, and blue or gray eyes.

D	Homocystinuria

Homocystinuria is an inherited autosomal recessive disorder resulting from defective methionine metabolism. These patients tend to have a typical physical appearance (long thin extremities, arachnodactyly, pale skin and hair), Unless the condition is diagnosed early and appropriate dietary restrictions started, patients develop a multitude of additional symptoms from early childhood (neurological, psychiatric, ocular, and cardiovascular).

E	Phenylketonuria

Phenylketonuria is another inherited autosomal recessive condition characterised by a defect in the pathway of phenylalanine metabolism. Patients tend to be of fair hair and skin. This condition is now routinely screened for at birth and appropriate dietary restrictions implemented in order to avoid complications.

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Responses Total:	42
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A 35-year-old butcher presents to his GP with several small ‘spots’ on his right hand. He says these ‘spots’ have been present for several months and have increased in number. He is sure that there was only one at the very start but that adjacent fingers became involved with time. He is otherwise fit and well and is not on any medications. Examination of the patient’s hand shows several skin-coloured exophytic nodules that are not inflamed. There is minimal scaling but the lesions tend to be found on adjacent skin surfaces.

What would be the most likely diagnosis?

A	Human papilloma virus (HPV) type 2
B	Molluscum contagiousum
C	Pompholyx eczema
D	Squamous cell carcinoma
E	Keratoacanthoma

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C	Pompholyx eczema
D	Squamous cell carcinoma
E	Keratoacanthoma

Explanation

A	Human papilloma virus (HPV) type 2

Such infections cause benign, self-limiting warts that are usually found on the hands and fingers. The term 'kissing warts' has been applied to this kind of infection due to the autoinoculation that may occur from a wart on one finger causing the occurrence of warts on an adjacent finger. The virus can be spread by direct or indirect contact and can resist desiccation, freezing and prolonged storage outside of host cells. The diagnosis is made primarily on clinical findings.

B	Molluscum contagiousum

Molluscum contagiosum is a common viral skin infection that causes localised clusters of round, pearly papules with a central pit. It is commonly seen in children and is spread by direct skin-to-skin contact, indirect contact (e.g. via shared towels), and auto-inoculation via scratching.

C	Pompholyx eczema

Pompholyx is a type of eczema that causes tiny blisters to develop across the fingers, palms of the hands and sometimes the soles of the feet. Treatment is with topical steroids and avoidance of contact with allergens.

D	Squamous cell carcinoma

SCC is a common type of non-melanoma skin cancer that present as enlarging, often tender, scaly or ulcerated lesions. SCCs are particularly prevalent in elderly. Risk factors include: sun exposure, smoking, fair skin, blue eyes and blond or red hair.

E	Keratoacanthoma

Keratoacanthomas are thought to be a variant of SCC. They are rapidly enlarging lesions with central keratin plugging that enlarge over months and may then resolve spontaneously. They should be treated as SCCs.

6797

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A 19-year-old female presents to the GP concerned about the appearance of the skin around her left eye. She reports having had some pain around her left eye 3 days ago but since she could not see any abnormalities, she did not do anything about it. However, over the last 3 days, some itchy spots have begun appearing in the same area. On examination, the left eyelid shows erythematous skin with papular lesions which are weeping. The eyeball itself is white and does not appear to be involved. No proptosis is identified and eye movements are found to be equal in both eyes. The patient is otherwise fit and well and not on any medications.

What is the likely diagnosis?

A	Pre-septal cellulitis
B	Orbital cellulitus
C	Impetigo
D	Eyrsipelas
E	Herpes simplex infection

6798

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A 19-year-old female presents to the GP concerned about the appearance of the skin around her left eye. She reports having had some pain around her left eye 3 days ago but since she could not see any abnormalities, she did not do anything about it. However, over the last 3 days, some itchy spots have begun appearing in the same area. On examination, the left eyelid shows erythematous skin with papular lesions which are weeping. The eyeball itself is white and does not appear to be involved. No proptosis is identified and eye movements are found to be equal in both eyes. The patient is otherwise fit and well and not on any medications.

What is the likely diagnosis?

A	Pre-septal cellulitis
B	Orbital cellulitus
C	Impetigo
D	Eyrsipelas
E	Herpes simplex infection

Explanation

E Herpes simplex infection

Herpes simplex virus (HSV) infection can cause a variety of clinical symptoms. HSV type 1 is normally associated with orofacial infections. It typically presents as vesicular rash that may be preceded by a prodrome of pain, tingling, burning or itching. Vesicles become pustular or ulcerative with formation of crusts within 72–96 hours and heal over 8–10 days.

It is important to ask if the patient has had a recent cold sore infection of the mouth or has been in contact with anyone who has had a cold sore infection, since direct spread from the mouth to the eye can occur via contact with infected saliva.

It is imperative that the eye is also examined, both externally (the cornea looking for the classic dendritic ulcer on the surface) and internally (to exclude acute retinal necrosis, a rare complication of HSV infection that may result in blindness).

A Pre-septal cellulitis

Pre-septal cellulitis (also known as periorbital cellulitis) is an infection of the eyelids or skin around the eyes. Symptoms include: erythema, oedema, discharge, loss of visual acuity, and pain. Pre-septal cellulitis must be differentiated from orbital cellulitis, which is an emergency and requires urgent medical intervention.

B Orbital cellulitus

Orbital cellulitis is a dangerous infection that affects the fat and muscles around the eye. It usually occurs due to acute spread of infection into the eye socket from either the adjacent sinuses or through the blood. Symptoms include painful eye movement, opthalmoplegia, loss of vision, discharge, proptosis, oedema and erythema of the eyelids. Urgent ophthalmological assessment and treatment with antibiotics is paramount. In some patients surgical intervention may also be required in order to drain the presence of abscesses.

C Impetigo

Impetigo is an acute and highly contagious superficial infection of the skin that commonly occurs in children, and consequently outbreaks in nurseries and schools are not rare. There are two forms of the condition, bullous and non-bullous, with the former being caused almost exclusively by Staphylococcus aureus whereas the latter can be caused by S. aureus, group A streptococcus (Streptococcus pyogenes), or a combination of both. Culture of the skin lesions is required to confirm the diagnosis and determine the causative organism. Treatment consists of topical therapy (topical mupirocin) alone or in combination with systemic therapy.

D Eyrsipelas

Erysipelas is a superficial bacterial skin infection caused by *S. pyogenes* and characterized by well demarcated erythema. Lymphatic involvement is common and manifests by streaking of the overlying skin and local lymphadenopathy.

6798

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A 31-year-old nursery worker with a history of periorbital eczema presents to her GP complaining of a rash on her right cheek. The rash has been present for about a week but began as a small blister which subsequently ruptured. The patient had thought that it had been an insect bite but became more concerned as the area affected began to increase in size. Although the lesion is painless, the patient does complain of burning and itching over the rash. The patient is otherwise fit and well and is not on any medications. She lives alone and does not recall being in contact with anyone with a similar rash. On examination, the patient has a weeping area measuring 4 cm across her right cheek with golden, crusted edges. General examination of the patient was otherwise normal and no other lesions were identified.

What is the most likely diagnosis?

A	Erysipelas
B	Impetigo
C	Herpes simplex infection
D	Herpes zoster infection
E	Atopic dermatitis

7612

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Normal Values

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A 31-year-old nursery worker with a history of periorbital eczema presents to her GP complaining of a rash on her right cheek. The rash has been present for about a week but began as a small blister which subsequently ruptured. The patient had thought that it had been an insect bite but became more concerned as the area affected began to increase in size. Although the lesion is painless, the patient does complain of burning and itching over the rash. The patient is otherwise fit and well and is not on any medications. She lives alone and does not recall being in contact with anyone with a similar rash. On examination, the patient has a weeping area measuring 4 cm across her right cheek with golden, crusted edges. General examination of the patient was otherwise normal and no other lesions were identified.

What is the most likely diagnosis?

A	Erysipelas
B	Impetigo
C	Herpes simplex infection
D	Herpes zoster infection
E	Atopic dermatitis

Explanation

B	Impetigo

Atopic skin is prone to acquiring superimposed bacterial and viral infections. Impetigo is an acute and highly contagious superficial infection of the skin that commonly occurs in children, and consequently outbreaks in nurseries and schools are not rare. There are two forms of the condition, bullous and non-bullous, with the former being caused almost exclusively by Staphylococcus aureus whereas the latter can be caused by S. aureus, group A streptococcus (Streptococcus pyogenes), or a combination of both. Culture of the skin lesions is required to confirm the diagnosis and determine the causative organism. Treatment can consist of topical therapy (topical mupirocin) alone or in combination with systemic therapy.

A	Erysipelas

Erysipelas is a superficial bacterial skin infection caused by *S. pyogenes* and characterized by well demarcated erythema. Lymphatic involvement is common and manifests by streaking of the overlying skin and local lymphadenopathy.

C	Herpes simplex infection

Herpes simplex virus (HSV) infection can cause a variety of clinical symptoms. HSV type 1 is normally associated with orofacial infections. It typically presents as vesicular rash that may be preceded by a prodrome of pain, tingling, burning or itching. Vesicles become pustular or ulcerative with formation of crusts within 72–96 hours and heal over 8–10 days.

D	Herpes zoster infection

Primary herpes zoster infection causes chickenpox. The virus becomes latent and upon reactivation causes shingles (a painful, vesicular rash in a dermatomal distribution).

E	Atopic dermatitis

AD is a chronic pruritic condition with characteristic skin changes (inflamed, red, and sometimes weepy patches) that occurs due to a complex interaction between genetic and environmental factors. It usually begins in infancy, but may also occur at any age. Atopic skin is prone to acquiring superimposed infections, commonly with either HSV (eczema herpeticum) or *S. Aureus* (impetigo).

7612

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Responses Correct:	0
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A 32-year-old woman presents with a 1-week history of cellulitis of the middle finger of her left hand. This has occurred twice before in the last year and resolved after 2–3 weeks. On each occasion she presented with cellulitis and painful lymphadenopathy of the left axilla, and was treated with intravenous antibiotics. Wound swabs, blood cultures and fungal cultures were negative.

On examination the patient had a vesiculo-pustular plaque on the distal phalanx, with lesions on the ulnar border of the middle phalanx.



There was ascending lymphangitis on the dorsum of the left hand extending proximally to the mid-forearm, and painful lymphadenopathy.

Prolonged tissue culture for acid-fast bacilli is sent.

X-ray of the left finger shows no bony abnormality.

Magnetic resonance imaging (MRI) of the left hand shows high signal within the soft tissue of the middle finger consistent with oedema.

What is the best management option?

A	Aciclovir 800 mg 5 times/day
B	Anti-tuberculous therapy
C	Benzyl penicillin 1.2 g qds + flucloxacillin 1 g intravenously qds
D	Prednisolone 60 mg od
E	Surgical debridement

Explanation

A	Aciclovir 800 mg 5 times/day

The clinical features and recurrent nature at the same site are diagnostic for *Herpes simplex* infection, known on a digit as herpetic whitlow. This may cause secondary cellulitis, lymphangitis and lymphadenitis. Rarely, lymphoedema may follow. The diagnosis should be confirmed on a viral swab, usually via culture or PCR. Uncomplicated disease may not require treatment, but given the complications in the scenario, aciclovir should be commenced. In recurrent disease, prophylaxis (aciclovir 400 mg bd) is appropriate.

B	Anti-tuberculous therapy

Cutaneous lesions of tuberculosis would not be episodic and the appearance in the photograph is characteristic of *Herpes simplex* infection.

C	Benzyl penicillin 1.2 g qds + flucloxacillin 1 g intravenously qds

This might be appropriate for super-added bacterial infection, but the symptoms and signs are fully compatible with *Herpes simplex* infection.

D	Prednisolone 60 mg od

This would risk worsening *Herpes simplex* infection, the diagnosis of which is clear from the photograph.

E	Surgical debridement

This has no place in the management of herpetic whitlow, the diagnosis of which is clear from the photograph.

6331

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A 36-year-old gentleman presents with a painful blistering rash affecting his body.



The lesions are very itchy and fragile. He has been feeling unwell and his appetite has reduced remarkably. On examination there are erythematous papules and blisters on the palms, dorsum of hands (see figure), forearms and a few on the trunk. The lips are eroded with multiple aphthous ulcers in the mouth. The eyes are injected.

What is the most likely diagnosis?

A	Pemphigus vulgaris
B	Erythema multiforme
C	Stevens–Johnson syndrome
D	Erythema nodosum
E	Guttate psoriasis

Explanation

The answer is -

Erythema multiforme involving the mouth presents with multiple irregular erosions on the buccal mucosa. Extensive involvement of the mouth, lips, conjunctiva and genitalia is called Stevens–Johnson syndrome. The causes of this are similar to that of erythema mutiforme but are more likely to be drugs e.g. co-trimoxazole.

6332

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Responses Correct:	0
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A 62-year-old man presents to his GP having noticed white patches on his tongue when cleaning his teeth, these don't dislodge when he tries to brush them away. The patient does not report any associated symptoms. The patient is otherwise fit and well and is only on one tablet for control of his blood pressure. He has been a pipe smoker for 40 years and admits to liking his alcohol, consuming about 15 glasses of spirits per week. On examination of the patient's mouth, localised, opaque elevated plaques with an irregular outline are seen on the buccal mucosa. There appears to be ulceration on the base of one of these areas. The teeth appear healthy. General clinical examination is normal.

What is the most likely diagnosis?

A	Lichen planus
B	Oral candidiasis
C	Oral leukoplakia
D	White sponge naevi of Cannon
E	Multiple aphthous ulcers

7613

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A 62-year-old man presents to his GP having noticed white patches on his tongue when cleaning his teeth, these don't dislodge when he tries to brush them away. The patient does not report any associated symptoms. The patient is otherwise fit and well and is only on one tablet for control of his blood pressure. He has been a pipe smoker for 40 years and admits to liking his alcohol, consuming about 15 glasses of spirits per week. On examination of the patient's mouth, localised, opaque elevated plaques with an irregular outline are seen on the buccal mucosa. There appears to be ulceration on the base of one of these areas. The teeth appear healthy. General clinical examination is normal.

What is the most likely diagnosis?

A	Lichen planus
B	Oral candidiasis
C	Oral leukoplakia
D	White sponge naevi of Cannon
E	Multiple aphthous ulcers

Explanation

C	Oral leukoplakia

Oral leukoplakia is a condition characterised by well demarcated, asymptomatic white patches that cannot be rubbed off. The exact underlying cause of leukoplakia is largely unknown, but it is likely multifactorial and includes smoking, alcohol consumption, and ill-fitting dentures.

A	Lichen planus

Oral lichen planus is a chronic inflammatory condition of unknown aetiology that typically appears as patches of fine, white, lace-like lines. Mainstay of treatment is with topical corticosteroids in the form of sprays, lozenges or mouthwashes.

B	Oral candidiasis

Oral candidiasis (thrush) is a yeast infection of the mouth mucosae by the species *Candida albicans*. Common predisposing factors include smoking, immunodeficiency, dentures, and sicca. Treatment is by topical anti-fungal agents such as nystatin.

D	White sponge naevi of Cannon

White sponge naevus (naevus of Canon) is an autosomal dominant condition that causes thick, white and velvety lesions on mouth mucosae. Lesions are usually present from birth or develop during childhood. The condition is entirely benign, and requires no treatment.

E	Multiple aphthous ulcers

Aphthous ulcers are painful and hence the patients are symptomatic.

7613

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The district nurse taking care of leg ulcers of an elderly man had requested a home visit by the GP for the patient's daughter, who lives with the patient. The nurse had noticed that the daughter had — virtually overnight — developed unusual excoriation marks on her shins. The lesions appeared to be clearly demarcated from the surrounding normal skin and had a geometric pattern. The daughter denies having noticed the lesions and indeed reports that they are symptomless. The district nurse tells the GP that the daughter is an only child and is always at home with the father. She does not seem to socialize and appears to have very few friends.

What would be the most likely diagnosis in this case?

A	Atopic dermatitis
B	Dermatitis artefacta
C	Scabies
D	Eczema
E	Urticaria

7614

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The district nurse taking care of leg ulcers of an elderly man had requested a home visit by the GP for the patient's daughter, who lives with the patient. The nurse had noticed that the daughter had — virtually overnight — developed unusual excoriation marks on her shins. The lesions appeared to be clearly demarcated from the surrounding normal skin and had a geometric pattern. The daughter denies having noticed the lesions and indeed reports that they are symptomless. The district nurse tells the GP that the daughter is an only child and is always at home with the father. She does not seem to socialize and appears to have very few friends.

What would be the most likely diagnosis in this case?

A	Atopic dermatitis
B	Dermatitis artefacta
C	Scabies
D	Eczema
E	Urticaria

Explanation

Dermatitis artefacta is a condition where the skin lesions are inflicted by the patient on themselves. It may be due to an underlying psychological problem, a form of emotional release from distressful situations, or attention-seeking behaviour particularly when the patient is lonely. It is more common in women than in men. The lesions tend to have unusual shapes and may have a linear or geometric pattern. They are clearly demarcated from surrounding skin and usually appear overnight. Different methods may be used to injure the skin (nails, caustic soda, cigarettes). The lesions tend to be on exposed skin that is readily accessible to the patient's hands. Scabies is an infection of the skin with the microscopic mite Sarcoptes scabei. Scabies spreads rapidly under crowded conditions where there is frequent skin-to-skin contact between people. Lesions are typically found in the webbing between the fingers and the skin folds on the wrist, elbow or knee. The rash is intensely itchy, especially at night.

7614

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A 16-year-old female attends her GP complaining of an itchy rash over her back and abdomen that has been present for about 4 days. She recalls that about 2 weeks previously, she had noticed an oval pink area about 2 cm across on the right upper part of her abdomen surrounded by a dark red border. She had thought it was an area of dryness since it was quite itchy. The rash appeared 10 days after this area of 'dryness' in crops over her trunk. She is normally fit and well but does complain of having a few 'flu-like' symptoms recently. She is on no medications. On examination, the patient has a rash localised mainly to the trunk and adjacent areas of the neck and limbs. The rash itself is composed of small oval patches with a salmon pink colour with each area being separated by a collarette of fine scales.

What is the most likely diagnosis?

A	Pityriasis rosea
B	Pityriasis alba
C	Pityriasis versicolor
D	Erythema multiforme
E	Psoriasis

7615

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Normal Values

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A 16-year-old female attends her GP complaining of an itchy rash over her back and abdomen that has been present for about 4 days. She recalls that about 2 weeks previously, she had noticed an oval pink area about 2 cm across on the right upper part of her abdomen surrounded by a dark red border. She had thought it was an area of dryness since it was quite itchy. The rash appeared 10 days after this area of 'dryness' in crops over her trunk. She is normally fit and well but does complain of having a few 'flu-like' symptoms recently. She is on no medications. On examination, the patient has a rash localised mainly to the trunk and adjacent areas of the neck and limbs. The rash itself is composed of small oval patches with a salmon pink colour with each area being separated by a collarette of fine scales.

What is the most likely diagnosis?

A	Pityriasis rosea
B	Pityriasis alba
C	Pityriasis versicolor
D	Erythema multiforme
E	Psoriasis

Explanation

Pityriasis rosea (PR) is an acute exanthem that initially presents with a primary plaque (herald patch) followed, 1–2 weeks later, by a generalised rash which can last up to 6 weeks. Prodromal symptoms may precede the herald patch and the symptom of pruritus may be intense. The herald patch measures 1–2 cm in diameter and is usually located on the trunk. The secondary rash is symmetric and again localised to the trunk and the adjacent areas of the neck and limbs. The rash is typically described as being in a Christmas tree pattern. Pityriasis alba is a hypopigmented dermatitis that occurs primarily in school-aged children who tend to be asymptomatic. In half the cases, the lesions are limited to the face. Pityriasis versicolor (tinea versicolor) is a superficial cutaneous fungal infection characterised by macules on the chest and the back. It is caused by Malassezia furfur. The main complaint of affected patients tends to be abnormal pigmentation, which is cosmetically upsetting, and mild pruritus.

7615

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A 53-year-old gentleman who was previously resident in Australia is referred with a large naevus on his back which has been darkening in colour. He mentions that his brother was recently diagnosed with a malignant melanoma. Subsequent excision and histology in this gentleman confirms the diagnosis of malignant melanoma to a depth of 4 mm. He wishes to know what his prognosis might be.

The ONE feature that will most affect his prognosis is:

A	Family history of melanoma
B	Location of melanoma on the back
C	Thickness of melanoma at excision
D	Previous marked sun exposure
E	Change in colour

8554

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Normal Values

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The ONE feature that will most affect his prognosis is:

A	Family history of melanoma
B	Location of melanoma on the back
C	Thickness of melanoma at excision
D	Previous marked sun exposure
E	Change in colour

Explanation

This gentleman has risk factors for melanoma: his previous marked sun exposure by living in Australia and his family history. However although both of these predispose him to develop melanoma, neither will affect his prognosis. In males, the back is the most common area to develop a melanoma, while in women the legs are most commonly affected. The location does not however affect prognosis. The recognition of signs of malignancy in a pre-existing lesion depends on assessment of asymmetry, border, colour, diameter and elevation. The darkening of this gentleman's lesion prompted the subsequent excision and diagnosis, however, does not have any impact on his prognosis. The thickness of the melanoma, or Breslow thickness, is the single most important prognostic feature and impacts of management decisions.

Eight-year survival rates for melanoma based on tumour thickness are as follows:

<0.76 mm	93%
0.76–1.69 mm	85%
1.70–3.60 mm	60%
>3.60 mm	33%

8554

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An 80-year-old lady is referred from her nursing home with increasing itch. The itch occurs mainly in the webs of her fingers and becomes worse at night. On examination she has erythematous papules over her wrists and hands. She has recently been started on amoxicillin by her general practitioner (GP) for a chest infection but is otherwise on no medication.

The most likely diagnosis is:

A	Drug reaction
B	Scabies
C	Eczema
D	Lichen planus
E	Psoriasis

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The most likely diagnosis is:

A	Drug reaction
B	Scabies
C	Eczema
D	Lichen planus
E	Psoriasis

Explanation

The story is typical of scabies. Scabies is generally most common in children and young adults, however in recent years the incidence has been increasing in the elderly in nursing and residential homes. Itch is the most common manifestation of scabies and occurs at night when the patient is warm. The pathgnomic lesions of scabies are burrows, however people also develop a hypersensitivity reaction in the form of papules. Lichen planus can also be itchy and affect the wrists but is usually purple in colour with white striae.

8555

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A 23-year-old hiker has returned from a recent holiday in Austria with a spreading rash. He also complains of aching knee joints. He suffered at least two tick bites, where he removed the parasites himself.



Given the likely diagnosis, the most appropriate treatment would be:

A	Doxycycline 100 mg bd
B	Ciprofloxacin 500 mg od
C	Prednisolone 50 mg od
D	Topical hydrocortisone
E	No treatment

8556

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A 23-year-old hiker has returned from a recent holiday in Austria with a spreading rash. He also complains of aching knee joints. He suffered at least two tick bites, where he removed the parasites himself.



Given the likely diagnosis, the most appropriate treatment would be:

A	Doxycycline 100 mg bd
B	Ciprofloxacin 500 mg od
C	Prednisolone 50 mg od
D	Topical hydrocortisone
E	No treatment

Explanation

The diagnosis is Lyme disease. This is as a result of infection by Borrelia burgdorferi which is transmitted to humans by tick bites. The associated diagnostic rash is erythema chronicum migrans. This appears at the site of the tick bite in about 90% of patients, on average around 9 days after the inoculation. There is an enlarging ring formation, which may clear in the centre leaving a target-like morphology. Dissemination may lead to arthritis (57%), neural involvement (18%) and heart disease, in particular conduction defects (10%). Most non-disseminated disease responds well to oral antibiotics eg doxycycline or amoxicillin.

8556

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Responses Total:	51
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A 56-year-old woman develops flaccid blistering over her face, axillae and groins, which rupture to leave painful erosions. She also complains of a painful mouth. Biopsy with immunofluorescence shows immunoglobulin deposited throughout the epidermis.



Given the likely diagnosis, what is the most appropriate treatment?

A	Topical steroids
B	Prednisolone 10 mg od
C	Prednisolone 70 mg od
D	Methotrexate 15 mg weekly
E	Amoxicillin 500 mg tds

8557

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Given the likely diagnosis, what is the most appropriate treatment?

A	Topical steroids
B	Prednisolone 10 mg od
C	Prednisolone 70 mg od
D	Methotrexate 15 mg weekly
E	Amoxicillin 500 mg tds

Explanation

This lady has classic features of pemphigus. The blisters are flaccid as compared with pemphigoid, which presents with tense blisters and immunofluorescence along the basement membrane. Most patients also have mucosal lesions. The severity and history are variable but before treatment with steroids most patients would die. Patients require high-dose steroids to induce remission and then may require long-term lower dose steroids for maintenance, usually for around 2 years. The mortality has now been reduced to 5–15%.

8557

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Responses Total:	52
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A 18-year-old woman presents with circular lesions on her hands.They have a raised palpable border. She also has the lesions on her feet:



Which ONE of the following conditions needs to be excluded?

A	Hypothyroidism
B	Coeliac disease
C	Acromegaly
D	Diabetes
E	Pellagra

8558

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Normal Values

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A 18-year-old woman presents with circular lesions on her hands.They have a raised palpable border. She also has the lesions on her feet:



Which ONE of the following conditions needs to be excluded?

A	Hypothyroidism
B	Coeliac disease
C	Acromegaly
D	Diabetes
E	Pellagra

Explanation

Granuloma annulare presents as a ring of small smooth papules, which enlarge centrifugally. Lesions may be solitary or multiple and usually present on the hands and feet. They are usually asymptomatic. They occur most commonly in individuals under the age of 30 years, and are more common in women than in men. There is an association with diabetes although this is disputed by some commentators. Other skin disorders associated with diabetes are necrobiosis lipoidica, and insulin lipodystrophy.

8558

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Responses Correct:	0
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Responses Total:	53
Responses - % Correct:	0%

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A 21-year-old man presents with multiple lesions over his torso:



Which ONE of the following is NOT part of this disorder?

A	*Café au lait* patches
B	Periungual fibroma
C	Lisch nodules
D	Axillary freckling
E	Autosomal dominant inheritance

8559

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Calculator

Normal Values

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A 21-year-old man presents with multiple lesions over his torso:



Which ONE of the following is NOT part of this disorder?

A	*Café au lait* patches
B	Periungual fibroma
C	Lisch nodules
D	Axillary freckling
E	Autosomal dominant inheritance

Explanation

The answer is Periungual fibroma -

Multiple neurofibromas are part of neurofibromatosis type 1 or von Recklinghausen's disease. It is characterised by the presence of six or more *café au lait* spots, axillary freckling and Lisch nodules (pigmented iris hamartomas). The inheritance is autosomal dominant and the gene is located on chromosome 17. Neurological manifestations are seen in around 40% of patients, most commonly an optic nerve glioma. Neurofibromatosis type 2 (NF2) is characterised by bilateral acoustic neuromas and other central nervous system tumours. *Café au lait* spots and cutaneous neurofibromas are much less common in NF2 and are usually fewer in number. Periungual fibromas are part of the characteristic lesions for tuberous sclerosis.

Syndrome	Frequency	Genotype	Types of endocrine tumours	Skin lesion	Risk of other malignancy
Neurofibromatosis type 1	Prevalence of 1 per 4-5000	NF2 (17q11.2)	Somatostatin/insulin producing neuroendocrine tumour (NET) Duodenal NET GIST	Cafe au lait macules Neurofibromas Axillary freckling	Optic gliomas Meningioma Astrocytoma Neurofibrosarcoma Rhabdomyosarcoma Phaeochromocytoma Duodenal carcinoid
Tuberous sclerosis	Prevalence of 1 per 5000-10000	TSC1 (9q34) TSC2 (16p13)	Pancreatic NET	Angiofibromas Ash-leaf macules Shagreen patch Fibroma	Renal cell carcinoma Angiomyolipomas Astrocytoma

8559

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A 58-year-old lady presents with a rash around her eyes and over her hands. She also complains of difficulty brushing her hair.



Which of the following results is associated with this condition?

A	Raised angiotensin-converting enzyme (ACE) levels
B	Anti-double-stranded DNA antibodies
C	Giant cell identification on biopsy of the temporal artery
D	Anti-centromere antibodies
E	Anti-Jo antibodies

8560

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Explanation

E Anti-Jo antibodies

A heliotrope rash around the eyes and violaceous papules (Gottron's papules) over the hands is characteristic of dermatomyositis. The disorder is associated with the development of anti-Jo antibodies in roughly 30% of patients, and can also commonly cause polymyositis that affects proximal muscles (e.g. causing difficulties in brushing hair, standing up from a chair).

There are two peaks of onset, one in childhood and the other between the ages of 40 and 60 years. Dermatomyositis occurs twice as frequently in women as it does in men. There is an association with malignancy, commonly of the lung, breast, female genital tract, stomach and rectum. Dermatomyositis precedes neoplasm occurrence in 40% of cases, both conditions occur together in 26%, and in 30% the neoplasm occurs first.

A Raised angiotensin-converting enzyme (ACE) levels

Raised ACE levels are associated with a diagnosis of sarcoidosis. Cutaneous findings include erythema nodosum, and indurated purple-red plaques (theplaques are termed lupus pernio when affecting the nose, ears, and cheeks).

B Anti-double-stranded DNA antibodies

Anti-double-stranded DNA antibodies are associated with systemic lupus erythematosus (SLE). SLE is also associated with a facial rash, in a pathognomonic butterfly distribution, but not with the development of Gottron's papules.

C Giant cell identification on biopsy of the temporal artery

Temporal (also known as giant cell) arteritis is an inflammatory condition of blood vessels that can cause malaise, scalp tenderness, jaw claudication, and loss of vision. The gold standard for diagnosing the condition is biopsy of the temporal artery. However, a negative result does not definitively rule out the diagnosis as blood vessels are often involved in a patchy pattern with skip lesions. Unilateral biopsy of a 1.5–3 cm length is 85-90% sensitive.

D Anti-centromere antibodies

Anti-centromere antibodies are found in patients with the CREST syndrome (a limited form of systemic sclerosis in which there is Calcinosis, Raynaud's, oEsophageal involvement, Sclerodactyly and Telangiectasia). Additional cutaneous features of the CREST syndrome include skin thickening, hyper and hypo-pigmentation in a 'salt and pepper' appearance, nail fragility, and ulcer formation.

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A 36-year-old lady presents with blistering and hyperpigmentation over her hands, which occurred after a recent holiday to Cyprus.



The most likely diagnosis is:

A	Porphyria cutanea tarda
B	Acute intermittent porphyria
C	Systemic lupus erythematosus
D	Dermatitis herpetiformis
E	Pompholyx

8561

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The most likely diagnosis is:

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C	Systemic lupus erythematosus
D	Dermatitis herpetiformis
E	Pompholyx

Explanation

The answer is - Porphyria cutanea tarda

Porphyria cutanea tarda (PCT) is the most common of the porphyrias. It is characterised by fragility and blistering of exposed skin. PCT is generally acquired and is the result of deficiency of uroporphyrinogen decarboxylase. Other features include scarring alopecia following resolution of bullae on the scalp, hypertrichosis and hyperpigmentation. Risk factors for the development of PCT include alcohol and sun, both of which this lady may have been exposed to in Cyprus. Acute intermittent porphyria is not associated with cutaneous manifestations. Systemic lupus erythematosus (SLE) is usually photosensitive but does not present with blistering. Pompholyx is an intensely itchy form of eczema, which occurs over the hands and may present with multiple small blisters.

8561

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An 80-year-old homeless man presents with punctuate haemorrhage around the hair follicles, and coiling of the hair on his upper arms. He appears to be malnourished and lethargic, with a weight of 70kg, and a blood pressure of 110/70.

His blood results are as follow:

Haemoglobin (Hb)	9.3 g/dl
White cell count (WCC)	9.2×10^9/l
Platelets	322×10^9/l
Na^+	138 mmol/l
K^+	3.6 mmol/l
Urea	3.4 μ mol/l
Creatinine	133 μ mol/l
Prothrombin time	15 s
Activated partial thromboplastin time	32 s
Bleeding time	3 min (3–10min)

Which of the following is the most likely diagnosis?:

A	Ehlers–Danlos syndrome
B	von Willebrand's disease
C	Disseminated intravascular coagulation (DIC)
D	Scurvy
E	Thrombotic thrombocytopenic purpura

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Normal Values

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E	Thrombotic thrombocytopenic purpura

Explanation

D	Scurvy

Humans are unable to synthesise ascorbic acid (vitamin C), and its deficiency leads to a condition known as scurvy. The initial typical skin changes are of follicular keratosis with coiling of the hair. Later, patients develop perifollicular haemorrhages, bleeding gums and purpura over the legs. Patients often have an associated anaemia and their plasma ascorbic acid levels will be low. There is rapid clinical improvement following vitamin C replacement.

A	Ehlers–Danlos syndrome

Ehlers-Danlos syndrome refers to a group of inherited disorders in collagen and connective tissue synthesis and structure, resulting in hyperelastic skin, unstable and hypermobile joints, and fragile tissue and blood vessels.

B	von Willebrand's disease

von Willebrand's disease is a hereditary clotting disorder associated with an increased bleeding tendency and easy bruising.

C	Disseminated intravascular coagulation (DIC)

DIC is a coagulation disorder characterized by the widespread activation of the clotting cascade that results in the formation of clots in the small blood vessels throughout the body. Common causes include sepsis, malignancies, and large injuries.

E	Thrombotic thrombocytopenic purpura

Thrombotic thrombocytopenic purpura is an autoimmune syndrome of microangiopathic haemolytic anaemia associated with renal and neurological dysfunction as well as abnormal clotting studies.

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A 54-year-old man with severe widespread chronic plaque psoriasis and arthritis in both hands has failed to respond adequately to treatment with increasing doses of oral methotrexate. He has previously failed treatment with phototherapy, cyclosporine and multiple topical agents.

Which ofthe following is the most appropriate treatment?

A	Switch to subcutaneous methotrexate
B	Switch to treatment with acitretin
C	Repeat course of phototherapy
D	Switch to adalimumab
E	Switch to oral prednisolone

8564

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Calculator

Normal Values

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B	Switch to treatment with acitretin
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D	Switch to adalimumab
E	Switch to oral prednisolone

Explanation

D	Switch to adalimumab

In severe plaque psoriasis, treatment with biologic agents is available in patients that have previously failed treatment with methotrexate, ciclosporin and phototherapy. Adalimumab is a biologic agent that has been used in the treatment of rheumatoid arthritis, inflammatory bowel disease, psoriasis and psoriatic arthritis. It acts as a TNF-α (tumour necrosis factor-alpha) antagonist with a good safety profile. However, TNF- α antagonists have been linked to a risk of reactivation of TB and therefore it is important to exclude cases of TB prior to commencing therapy. This is usually done with a chest X-ray and a quantiferon test.

A	Switch to subcutaneous methotrexate

Subcutaneous methotrexate is thought to have comparable efficacy to that of oral methotrexate and is often used in an attempt to bypass the gastrointestinal side effects that can be associated by taking oral methotrexate.

B	Switch to treatment with acitretin

Acitretin is an oral retinoid (vitamin-A derivative) that is used in the treatment of severe psoriasis, and in particular pustular psoriasis, erythrodermic psoriasis and psoriasis affecting hands and feet. However, it is not effective against psoriatic arthritis and therefore an alternative agent should be sought in this particular instance.

C	Repeat course of phototherapy

This patient has previously failed to respond to phototherapy and therefore repeated courses are unlikely to mount an improved response.

E	Switch to oral prednisolone

Oral corticosteroids are commonly avoided in the treatment of psoriasis due the high likelihood of severe recurrence of symptoms after treatment is discontinued.

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A 56-year-old gentleman is referred with a recent history of weight loss and worsening constipation. Clinical examination is unremarkable other than a rash in his axillae, and blood investigations which reveal a mild anaemia.



Which one of the following test results is likely to be encountered?

A	Raised T3/T4 and low TSH
B	Positive direct immunofluorescence
C	Low Vitamin D levels
D	Raised levels of carcinoembryonic antigen (CEA)
E	Positive patch testing to common antiperspirant agents

8565

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Normal Values

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E	Positive patch testing to common antiperspirant agents

Explanation

D	Raised levels of carcinoembryonic antigen (CEA)

Acanthosis nigricans is linked with obesity and various endocrine disorders associated with insulin resistance such as diabetes, acromegaly and Cushing's syndrome. More rarely it is a paraneoplastic manifestation particularly of the gastrointestinal tract. The CEA test measures the amount of this protein in the serum and is often raised in people with certain kinds of cancers, especially cancer of the large intestine (colon and rectum).

A	Raised T3/T4 and low TSH

Acanthosis nigricans is a diffuse velvety thickening and hyperpigmentation of the skin. It occurs mainly in the axillae and other intertriginous areas. It is linked to various endocrine disorders including hypothyroidism, but not hyperthyroidism.

B	Positive direct immunofluorescence

Direct immunofluorescence is a technique that involves the application of fluorescent antibodies to samples of patient tissue obtained from biopsies, and is used in dermatological practice in order to confirm the diagnosis of suspected autoimmune bullous diseases, connective tissue diseases and vasculitides.

C	Low Vitamin D levels

Acanthosis nigricans is not linked to vitamin D deficiency.

E	Positive patch testing to common antiperspirant agents

Patch testing is used to help confirm the presence of contact allergic reactions. These typically cause itchy, dermatitic skin rashes and are unrelated to acanthosis nigricans.

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A 15-year-old boy presents with a 2-day history of a non-blanching rash down his legs and buttocks. He has recently been started on trimethoprim for a urinary tract infection after going to his general practitioner complaining of abdominal pain.



Given the likely diagnosis, which of the following is NOT seen in this condition?

A	Mouth ulcers
B	Haematuria
C	Arthralgia or arthritis
D	Gastrointestinal bleeding
E	Deposition of immunoglobulin A (IgA) immune complexes on histology

8566

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Calculator

Normal Values

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A	Mouth ulcers
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E	Deposition of immunoglobulin A (IgA) immune complexes on histology

Explanation

This boy has a purpuric rash over his legs and buttocks, which is most likely to be Henoch–Schönlein purpura (HSP). This is reinforced by his symptom of abdominal pain, which is a common association. Gastrointestinal bleeding is present in 50–75% of patients. Renal involvement is also common (30–90%) although it is usually mild with only haematuria or minimal proteinuria. Arthralgia is also common affecting 75% of patients. Perivascular immunoglobulin A (IgA) deposits are characteristic and help to differentiate HSP from other vasculitic disorders. Mouth ulcers are not associated with this condition.

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A 23-year-old previously fit and well Turkish man presents with a history of painful oral and genital ulceration. More recently he has also developed gritty eyes and a sore knee. Examination reveals areas of mucosal ulceration and scaring in addition to knee synovitis and eye erythema. He is investigated with repeated blood tests after which he develops blistering at the sites of venepuncture.

Which of the following is themost likely diagnosis?:

A	Behçet's syndrome
B	Reiter's syndrome
C	HIV seroconversion
D	Herpes simplex virus (HSV) infection
E	Primary syphilis

8567

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Calculator

Normal Values

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D	Herpes simplex virus (HSV) infection
E	Primary syphilis

Explanation

A	Behçet's syndrome

Behçet's syndrome is most common in young Turkish males and presents with recurrent oral and genital ulcers. It is also associated with eye problems e.g. anterior and posterior uveitis and an asymmetrical migratory non-erosive oligoarthritis. Patients may also present with neurological complications, and in particular meningoencephalitis.

B	Reiter's syndrome

Reiter's syndrome consists of the triad of conjunctivitis, urethritis and arthritis. Patients also develop erosions in the mouth and also on the penis where they are known as circinate balanitis. The distinguishing feature in this history is the development of a pustule after skin puncture. This phenomenon known as pathergy is characteristic of Behçet's syndrome.

C	HIV seroconversion

HIV seroconversion occurs at the time that patients develop antibodies to the HIV virus and manifests as a flu-like illness.

D	Herpes simplex virus (HSV) infection

Symptoms of HSV recurrence manifest as vesicles and punched-out ulcers around the mouth or genitals, whereas primary HSV infection may also be associated with fever and malaise.

E	Primary syphilis

Syphilis is a sexually transmitted infection caused by the bacteria *Treponema pallidum*. Primary syphilis manifests as a painless ulcer at the site of infection, whereas secondary syphilis presents as a widespread rash associated with a flu-like illness.

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A 33-year-old Afro-Caribbean woman presents with a history of hair loss on her scalp without any regrowth. She is systemically well and denies any other symptoms. Clinical examination revealed several patches of alopecia associated with scarring. There is no loss of hair anywhere else on her body but some erythematous plaques are also noted on the patient's ears and cheeks.

Which of the following is the most likely diagnosis?:

A	Alopecia areata
B	Hypothyroidism
C	Trichotillomania
D	Female-pattern alopecia
E	Discoid lupus erythematosus

8568

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E	Discoid lupus erythematosus

Explanation

E Discoid lupus erythematosus

In scarring alopecia destruction of the hair follicles has occurred and therefore hair loss is permanent. Common causes include discoid lupus erythematosus, lichen planus/frontal fibrosing alopecia, and kerion from fungal infection.

A Alopecia areata

Alopecia areata is an autoimmune condition associated with non-scarring, localised hair loss in circular patterns. Alopecia totalis describes widespread involvement of the same process with loss of all scalp hair and eyebrows, while alopecia universalis describes complete loss of all body hair.

B Hypothyroidism

Hypothyroidism is a cause of sparse and brittle hair and nails, and is also linked to hair loss in the lateral third of the eyebrows.

C Trichotillomania

Trichotillomania describes a psychological disorder where patients are compelled to pull their own hair, resulting in alopecia. It is typically encountered in teenage females, leading to irregular patches of alopecia that are not commonly associated with a scarring process unless encountered in chronic, severe forms.

D Female-pattern alopecia

Female-pattern (androgen-dependant) alopecia is associated with diffuse thinning of hair on the scalp due to increased hair shedding or a reduction in hair volume, or both.

8568

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This 40-year-old female developed pale pink-yellowish plaques on her right leg 6 months ago (see figure). She denies any associated symptoms although she gives a history of trauma-related superficial ulcers. On examination of this plaque, there are overlying telangiectasias and atrophy of surrounding skin. She was healthy with no personal history of diabetes. Her family history is significant for type 2 adult onset diabetes. She has tried topical steroids before with minimal improvement. A glucose tolerance test, complete blood count with differential, urea and electrolytes and urinalysis were normal.



The most likely diagnosis is:

A	granuloma annulare
B	pyoderma gangrenosum
C	plaque sarcoidosis
D	necrobiosis lipoidica
E	acanthosis nigricans

8584

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The most likely diagnosis is:

A	granuloma annulare
B	pyoderma gangrenosum
C	plaque sarcoidosis
D	necrobiosis lipoidica
E	acanthosis nigricans

Explanation

The answer is necrobiosis lipoidica -

Necrobiosis lipoidica (NL) usually occurs more often in people with diabetes, in people with a family history of diabetes or a tendency to get diabetes. However, the exact cause of NL in not known. Necrobiosis is predictive of future diabetes development when it occurs in non-diabetic subjects. NL remains a disease of questionable aetiology despite extensive studies. Most cases of NL occur in the pretibial area, but cases have been reported on the face, scalp, trunk, and upper extremities, where the diagnosis is more likely to be missed. The lesions are difficult to treat although topical and intralesional steroids have been used. Inhibition of platelet aggregation with aspirin may be helpful. Granuloma annulare is a benign inflammatory dermatosis characterised clinically by dermal papules and annular plaques. Pyoderma gangrenosum is characterised by violaceous nodules and plaques, many with central crusting and ulceration with undermined borders. Plaque sarcoidosis is characterised by round-to-oval, red-brown to purple infiltrated plaques; the centre of the plaque may be atrophic. Acanthosis nigricans is characterised by symmetric velvety hyperpigmented plaques with thickened skin.

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A 67-year-old gentleman is reviewed in the cardiology clinic. He has a dusky erythema to his face and neck, although on questioning denies significant sun exposure.

Which of his medications is most likely to be responsible?

A	Digoxin
B	Amiodarone
C	Warfarin
D	Bendrofluazide
E	Allopurinol

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A	Digoxin
B	Amiodarone
C	Warfarin
D	Bendrofluazide
E	Allopurinol

Explanation

Photosensitivity is most commonly reported with amiodarone. Frusemide and thiazide diuretics are also associated with photosensitive skin reactions but less frequently so. Allopurinol may cause a vasculitic rash and over-anticoagulation with warfarin may lead to purpura and haematomas with minimal trauma.

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A 40-year-old lady attends for her first annual review in the gastroenterology clinic, her diarrhoea has been an increasing problem over the past few months. She complains bitterly of an intensely itchy rash. On examination there are groups of blisters and excoriations on her knees, elbows and back. She has been applying emollients with little effect.

Given the likely underlying cause, what is the next most important step for definitive management?

A	Topical corticosteroids
B	Oral dapsone
C	Regular chlorpheniramine
D	Dietician referral
E	Oral acyclovir

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E	Oral acyclovir

Explanation

This rash describes dermatitis herpetiformis (immunobullous disease with itchy blisters) which occurs with coeliac disease. Treatment is with a strict gluten-free diet (the rash should improve within a few weeks), which is best explained by an interested dietician with information about support groups given. Dapsone is very effective in managing the itch, which can be extremely distressing. It is important that patients understand the implications of their new diet, and that this will be an ongoing course of treatment necessary to prevent recurrence of symptoms, they have to maintain and stick to their gluten-free diet (which it seems likely this patient has not).

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A 72-year-old lady attends for results of a recent gastroscopy examination and Barium enema. She mentions a rash on her armpit. On examination her axillae both have pigmented, velvety, thickened areas.

What is the likely result from her investigations?

A	Coeliac disease
B	Crohn's disease
C	Adenocarcinoma
D	*Helicobacter pylori*
E	Ulcerative colitis

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E	Ulcerative colitis

Explanation

This rash describes *Acanthosis nigricans*, which is most commonly associated with gastric adenocarcinoma. Other associations include obesity and diabetes mellitus. Coeliac disease is associated with dermatitis herpetiformis; Crohn's and ulcerative colitis are associated with erythema nodosum and pyoderma gangrenosum.

9188

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Session Progress

Responses Correct:	0
Responses Incorrect:	66
Responses Total:	66
Responses - % Correct:	0%

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A mother attends with her 2-year-old son. They both have had a rash for several days, which is extremely itchy and worse at night. The son has a papular rash mainly affecting his trunk and thighs but there are also small palpable red nodules on his penis and in finger-web spaces.

Which is the most appropriate treatment?

A	Antihistamines
B	Topical emollients
C	Topical malathion 0.5% for the son
D	Oral corticosteroids
E	Topical malathion 0.5% for the whole family

9189

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A mother attends with her 2-year-old son. They both have had a rash for several days, which is extremely itchy and worse at night. The son has a papular rash mainly affecting his trunk and thighs but there are also small palpable red nodules on his penis and in finger-web spaces.

Which is the most appropriate treatment?

A	Antihistamines
B	Topical emollients
C	Topical malathion 0.5% for the son
D	Oral corticosteroids
E	Topical malathion 0.5% for the whole family

Explanation

This mother and son have scabies – red/brown papules and nodules on the penis and scrotum are pathognomonic for this condition. The whole household should be treated and linen etc washed at 60 °C. Treatment may worsen the itch for a few days and itching may persist for up to 2 weeks post effective treatment – antihistamines and calamine lotion may help.

9189

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Difficulty: Easy

Peer Responses %

Session Progress

Responses Correct:	0
Responses Incorrect:	67
Responses Total:	67
Responses - % Correct:	0%

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This patient attends for biannual review.

Routine blood tests are as follows:

Hb	13.4 g/dl
Bili	10 mcmol/l
AST	66 iu/l
ALT	78 iu/l
GGT	124 iu/l

His skin rash is extensive and has been poorly responsive to topical therapies and UV light treatment. In addition he has suffered increasing pains affecting small joints of his hands and feet over the past few months. A second line therapy is started.

Which of the following medications is he likely to be on?

A	Naproxen
B	Methotrexate
C	Ciclosporin
D	Cyclophosphamide
E	Calcitriol

9190

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Normal Values

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Routine blood tests are as follows:

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Bili	10 mcmol/l
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Which of the following medications is he likely to be on?

A	Naproxen
B	Methotrexate
C	Ciclosporin
D	Cyclophosphamide
E	Calcitriol

Explanation

This gentleman has psoriasis – extensor skin on knees is affected by a purplish plaque with silvery scales. Troublesome psoriasis or associated severe arthritis justifies use of a disease-modifying agent such as methotrexate. LFTs and FBC must be monitored regularly – side-effects include hepatitis and liver cirrhosis, lung fibrosis. Ciclosporin causes nephrotoxicity and U+Es and creatinine must be checked regularly as well as blood pressure (may precipitate hypertension). Calcipotriol ointment is used for bd topical treatment of plaque psoriasis.

9190

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Peer Responses %

Session Progress

Responses Correct:	0
Responses Incorrect:	68
Responses Total:	68
Responses - % Correct:	0%

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What other condition does this elderly lady have?

A	Type 2 diabetes mellitus
B	Hypothyroidism
C	Osteoarthritis
D	Ulcerative colitis
E	Coeliac disease

9191

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Normal Values

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What other condition does this elderly lady have?

A	Type 2 diabetes mellitus
B	Hypothyroidism
C	Osteoarthritis
D	Ulcerative colitis
E	Coeliac disease

Explanation

This is a nasty pyoderma gangrenosum – these are recurrent nodulo-pustular ulcers with a tender red/blue necrotic edge and healing with scarring. It is associated with ulcerative colitis and Crohn's disease, rheumatoid arthritis, Wegener's granulomatosis, myeloma, hyperthyroidism and Type 1 diabetes. Treatment is with high dose steroids +/– cyclosporin.

9191

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Session Progress

Responses Correct:	0
Responses Incorrect:	69
Responses Total:	69
Responses - % Correct:	0%

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A young man presents with a painful right knee. He does not recall any injury and has also noticed a non-itchy rash on his hands and feet and he has reddened conjunctivae. On questioning he has had some mild dysuria and a painless penile rash.

What is the likely cause?

A	*Candida albicans*
B	*Chlamydia trachomatis*
C	*Campylobacter jejuni*
D	*Borrelia burgdorferi*
E	Gluten-sensitive enteropathy

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Normal Values

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A young man presents with a painful right knee. He does not recall any injury and has also noticed a non-itchy rash on his hands and feet and he has reddened conjunctivae. On questioning he has had some mild dysuria and a painless penile rash.

What is the likely cause?

A	*Candida albicans*
B	*Chlamydia trachomatis*
C	*Campylobacter jejuni*
D	*Borrelia burgdorferi*
E	Gluten-sensitive enteropathy

Explanation

This is Reactive arthritis and the rash is keratoderma blenorrhagica. It occurs secondary to *Chlamydia trachomatis* (which may also cause circinate balanitis as in this case), salmonella, shigella, *Campylobacterjejuni* and yersinia. Stool should be cultured if diarrhoea is present and a urethral swab/sexual review should be made, as urethritis may be asymptomatic. The arthritis is managed with rest, NSAIDs +/– steroids and does not tend to respond to treatment of the causative organism.

9192

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Difficulty: Easy

Peer Responses %

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Responses Correct:	0
Responses Incorrect:	70
Responses Total:	70
Responses - % Correct:	0%

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A young lady is being investigated for an erythematous scaly malar rash with follicular plugging seen on close examination. She feels generally unwell with frequent mouth ulcers and intermittent arthralgia of several MCP and PIP joints for the past few months. She also reports lack of appetite and has lost 5 kg in weight over the last 6 weeks.

Which of the following tests is the most specific to the likely diagnosis?

A	ESR
B	CRP
C	dsDNA antibodies
D	ANA
E	Serum complement (C3,C4)

9193

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Calculator

Normal Values

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A young lady is being investigated for an erythematous scaly malar rash with follicular plugging seen on close examination. She feels generally unwell with frequent mouth ulcers and intermittent arthralgia of several MCP and PIP joints for the past few months. She also reports lack of appetite and has lost 5 kg in weight over the last 6 weeks.

Which of the following tests is the most specific to the likely diagnosis?

A	ESR
B	CRP
C	dsDNA antibodies
D	ANA
E	Serum complement (C3,C4)

Explanation

The answer is -dsDNA antibodies

This patient already describes three criteria for SLE (> 4/11 are required to make diagnosis although these may be serially not necessarily simultaneously). A high titre of dsDNA antibodies is virtually exclusive to SLE and would confirm this diagnosis. Titres can be used to measure disease activity alongside ESR and C3, C4 levels. CRP is not particularly useful in SLE as levels may remain low in active disease.

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Responses Correct:	0
Responses Incorrect:	71
Responses Total:	71
Responses - % Correct:	0%

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This lady was referred by her GP for investigation.

Which of the following is the pathognomic feature associated with this condition?

A	Breast carcinoma
B	Colorectal carcinoma
C	Hyponatraemia
D	Intestinal polyps
E	Iron deficiency anaemia

9194

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Normal Values

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This lady was referred by her GP for investigation.

Which of the following is the pathognomic feature associated with this condition?

A	Breast carcinoma
B	Colorectal carcinoma
C	Hyponatraemia
D	Intestinal polyps
E	Iron deficiency anaemia

Explanation

The presence of pigmented macules (lentigines) on the lips, around the mouth and buccal mucosa (not on the tongue), palm and soles associated with intestinal polyposis (hamartomas which may occur in small and large bowel) describes the Peutz–Jeghers' syndrome. Malignant transformation of these polyps is rare but it is associated with increased risk of breast, ovarian and pancreatic cancer. Co-existent gastric adenomas may occur, leading to an increased risk of gastric cancer. Patients may present with complications such as iron deficiency anaemia, frank GI haemorrhage, intestinal obstruction or intussusception, recurrent abdominal pain. Addison's disease (which would cause hyponatraemia) leads to a more generalised hyperpigmentation, especially buccal mucosa and palmar creases.

9194

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Session Progress

Responses Correct:	0
Responses Incorrect:	72
Responses Total:	72
Responses - % Correct:	0%

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An elderly lady admitted to hospital following a fall is noted by the nursing staff to have a brown-coloured reticular pigmented rash to both shins. On examination pedal pulses are present. She has periorbital puffiness, thin hair and dry thickened facial skin.

Which of the following features would you expect to find?

A	Exopthalmos
B	Erythematous malar rash
C	Striae
D	Slow relaxing reflexes
E	History of recurrent miscarriages

9195

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Normal Values

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An elderly lady admitted to hospital following a fall is noted by the nursing staff to have a brown-coloured reticular pigmented rash to both shins. On examination pedal pulses are present. She has periorbital puffiness, thin hair and dry thickened facial skin.

Which of the following features would you expect to find?

A	Exopthalmos
B	Erythematous malar rash
C	Striae
D	Slow relaxing reflexes
E	History of recurrent miscarriages

Explanation

This lady's rash is erythema ab igne, which is due to long-term heat exposure (often sitting close to electric/gas fires or from hot water bottle application for chronic pain relief). This patient therefore must feel the cold and in association with a suggestion of myxoedematous facies, the diagnosis is hypothyroidism. Livedo reticularis is also a reticular rash, of a reddish-purple colour, often affecting lower limbs, and this may be physiological, associated with antiphospholipid antibody syndrome, SLE or other connective tissue disease. Cushing's disease/syndrome causes striae.

9195

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Difficulty: Easy

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Responses Correct:	0
Responses Incorrect:	73
Responses Total:	73
Responses - % Correct:	0%

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A 56-year-old lady has symmetrical, elevated dark pink lesions over both shins. The lesions have a shiny orange peel appearance.

Hand examination is most likely to show:

A	Nail pitting
B	Koilonychia
C	Acropachy
D	Deforming hand arthritis
E	Leukonychia

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Calculator

Normal Values

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A 56-year-old lady has symmetrical, elevated dark pink lesions over both shins. The lesions have a shiny orange peel appearance.

Hand examination is most likely to show:

A	Nail pitting
B	Koilonychia
C	Acropachy
D	Deforming hand arthritis
E	Leukonychia

Explanation

These lesions describe pretibial myxoedema which occurs in 5% of patients with Graves disease. It is almost always accompanied by exophthalmos and occasionally thyroid acropachy. Nail pitting and onycholysis occur in psoriasis and onycholysis may also occur in thyroid disease, koilonychia in iron-deficiency anaemia, leukonychia with chronic liver disease and hypoalbuminaemia.

9197

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Responses Correct:	0
Responses Incorrect:	74
Responses Total:	74
Responses - % Correct:	0%

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A 18-year-old man has multiple salmon-coloured papules in a butterfly distribution particularly concentrated in the nasolabial fold. On his trunk there are also several hypopigmented macules that can be visualised with a UV lamp, which he thinks have been present since birth as he remembers doctors looking at them when he was a child.

Which of the following medications is he likely to be taking as a consequence of the disorder which underlies his skin complaint?

A	Minocycline
B	Hydroxychloroquine
C	Carbamazepine
D	Penicillamine
E	Amiodarone

9198

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Calculator

Normal Values

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A 18-year-old man has multiple salmon-coloured papules in a butterfly distribution particularly concentrated in the nasolabial fold. On his trunk there are also several hypopigmented macules that can be visualised with a UV lamp, which he thinks have been present since birth as he remembers doctors looking at them when he was a child.

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A	Minocycline
B	Hydroxychloroquine
C	Carbamazepine
D	Penicillamine
E	Amiodarone

Explanation

This patient has tuberous sclerosis with ‘adenoma sebaceum’, which are angiofibromata usually affecting malar area and nasolabial folds. The hypopigmented areas are ‘ashleaf macules’, seen easily with a Wood’s lamp and other features would include shagreen patches (flesh-coloured leathery patches) and ungal fibromata seen in approximately 40% of patients. The condition is associated with epilepsy (hence the carbamazepine) and mild or severe cognitive impairment (although 1/3 patients have normal intelligence). Minocycline may give a blue/black pigmentation, hydroxychloroquine may be used in SLE (butterfly lupus rash), and amiodarone may cause a photosensitive rash.

9198

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Responses Correct:	0
Responses Incorrect:	75
Responses Total:	75
Responses - % Correct:	0%

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A 45-year-old man is unable to sleep because of an extremely itchy rash. On examination there are violaceous shiny, flat-topped papules on both wrists and they are particularly florid around an old scar on the flexor aspect of his right forearm.

What is the likely diagnosis?

A	Guttate psoriasis
B	Lichen planus
C	Contact dermatitis
D	Lichen sclerosis
E	Eruptive xanthomatosis

9199

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Calculator

Normal Values

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What is the likely diagnosis?

A	Guttate psoriasis
B	Lichen planus
C	Contact dermatitis
D	Lichen sclerosis
E	Eruptive xanthomatosis

Explanation

Lichen planus (LP) characteristically affects flexor surfaces, particularly the wrists. There are fine white streaks on the surface of the lesions if viewed through a hand lens (Wickham's striae). It demonstrates the Koebner phenomenon (as does psoriasis) – a linear pattern along scratch marks or scars. There are often asymptomatic lacy white lesions in the buccal mucosa. Certain drugs may cause an LP-like eruption, particularly thiazides, β-blockers, phenothiazines, antimalarials and methyldopa. LP usually resolves spontaneously in a few months, but steroids may be required if pruritus is severe. Eruptive xanthomatosis occurs on extensor surfaces with severe hypertriglyceridaemia.

9199

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Peer Responses %

Session Progress

Responses Correct:	0
Responses Incorrect:	76
Responses Total:	76
Responses - % Correct:	0%

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A 23-year-old nurse has an itchy, sore, darkish erythematous rash affecting both palms and less severely, on the dorsum of both hands. The skin shows evidence of lichenification with dry, leathery thickened areas and prominent skin markings. The rash appears to have worsened despite regular handwashing and application of emollients.

Which of the following is the most appropriate long term intervention?

A	Oral corticosteroids
B	Referral to occupational health department
C	Regular antihistamines
D	Patch testing
E	Topical corticosteroids

9200

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Calculator

Normal Values

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A 23-year-old nurse has an itchy, sore, darkish erythematous rash affecting both palms and less severely, on the dorsum of both hands. The skin shows evidence of lichenification with dry, leathery thickened areas and prominent skin markings. The rash appears to have worsened despite regular handwashing and application of emollients.

Which of the following is the most appropriate long term intervention?

A	Oral corticosteroids
B	Referral to occupational health department
C	Regular antihistamines
D	Patch testing
E	Topical corticosteroids

Explanation

Irritant contact dermatitis is the most common form of occupational skin disease (up to 80%). Abrasives and cleaning agents (soaps, detergents and waterless hand cleansers as used often by medical workers) and excessive exposure to water are common causes in predisposed individual – usually a history of atopic dermatitis. Management involves prevention (avoidance of irritant product/barrier creams etc) and treatment with topical corticosteroids and emollients. Patch testing may be performed if there is uncertainty about the allergen but must be done in an unaffected area and at least 2 weeks after the dermatitis has subsided. In this case, although B, D and E are all appropriate, of most long-term importance in management is input from the occupational health team in view of probable occupational precipitation of this condition.

9200

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Session Progress

Responses Correct:	0
Responses Incorrect:	77
Responses Total:	77
Responses - % Correct:	0%

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An 85-year-old gentleman who lives alone was admitted following a fall at home. He was noted to have a rash to his lower legs which consisted of petechiae, follicular hyperkeratosis and perifollicular haemorrhages. His gums bled easily on performing oral hygiene, and remaining teeth were loose.

Blood tests were as follows:

Hb	12.1 g/dl
WC	7.0×10^9 /L
Plt	180×10^9/L
MCV	90 fL

What is the likely diagnosis?

A	Zinc deficiency
B	Myelodysplasia
C	Ascorbic acid deficiency
D	Folliculitis
E	Keratosis pilaris

9201

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Calculator

Normal Values

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MCV	90 fL

What is the likely diagnosis?

A	Zinc deficiency
B	Myelodysplasia
C	Ascorbic acid deficiency
D	Folliculitis
E	Keratosis pilaris

Explanation

This describes scurvy, vitamin C (ascorbic acid) deficiency, which leads to reduction in collagen formation and associated capillary fragility. It occurs in people with poor dietary intake, who eat little or no fruit and vegetables, commonly alcoholics and elderly people existing on a 'tea and toast' diet. Pregnancy, lactation and thyrotoxicosis increase ascorbic acid requirements and may precipitated scurvy. The normochromic, normocytic anaemia reflects bleeding into tissues, normal platelet count excludes the differential of thrombocytopenia. Zinc deficiency leads to well-demarcated psoriasiform and eczematous-like plaques, initially occurring in perioral and anogenital areas.

9201

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Difficulty: Easy

Peer Responses %

Session Progress

Responses Correct:	0
Responses Incorrect:	78
Responses Total:	78
Responses - % Correct:	0%

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A 22-year-old female is reviewed annually in clinic. She has multiple skin-coloured and pink-tan soft papules and nodules on her back and several darker brown large macules on her trunk. There are tiny freckle-like lesions in both axillae.

Investigations or further physical examination are likely to find:

A	Acoustic neuroma
B	Phaeochromocytoma
C	Lisch nodules
D	Charcot's joints
E	Astrocytoma

9202

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Normal Values

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Investigations or further physical examination are likely to find:

A	Acoustic neuroma
B	Phaeochromocytoma
C	Lisch nodules
D	Charcot's joints
E	Astrocytoma

Explanation

This patient has neurofibromas, several café-au-lait macules and axillary freckling. This describes neurofibromatosis type 1 (von Recklinghausen's) chromosome 17. Pigmented harmartomas in the iris (lisch nodules) which do not occur in NF2 are found in 95% of patients. Acoustic neuromas are rare in NF1 but bilateral in NF2 (chromosome 22). Phaeochromocytomas occur in about 5% and optic gliomas, astrocytomas and meningiomas may also occur. Spinal nerve root involvement may lead to cord compression, muscle wasting and sensory loss (Charcot's joints).

9202

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Responses Correct:	0
Responses Incorrect:	79
Responses Total:	79
Responses - % Correct:	0%

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A 50-year-old gentlemen was being treated with intravenous co-trimoxazole in the high-dependency unit. His condition appeared to be improving but he developed further pyrexia, generalised arthralgia, vesicles in his oral mucosa and genital ulceration. Symmetrical target-like lesions with concentric macules and papules were noticed originally on palms and soles, then face and trunk. Since then erythema has become confluent, tender with raised flaccid blisters which spread with lateral pressure, causing erosions.

What is the first management step?

A	Intravenous fluid supplementation
B	Systemic corticosteroids
C	Debridement
D	Stop co-trimoxazole
E	Topical steroids

9203

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Normal Values

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A 50-year-old gentlemen was being treated with intravenous co-trimoxazole in the high-dependency unit. His condition appeared to be improving but he developed further pyrexia, generalised arthralgia, vesicles in his oral mucosa and genital ulceration. Symmetrical target-like lesions with concentric macules and papules were noticed originally on palms and soles, then face and trunk. Since then erythema has become confluent, tender with raised flaccid blisters which spread with lateral pressure, causing erosions.

What is the first management step?

A	Intravenous fluid supplementation
B	Systemic corticosteroids
C	Debridement
D	Stop co-trimoxazole
E	Topical steroids

Explanation

D	Stop co-trimoxazole

Drug triggers are the most common cause of Stevens-Johnson syndrome, and prompt withdrawal of the suspected drug can improve prognosis.

Medications are the leading trigger of Stevens-Johnson syndrome, and therefore early diagnosis and withdrawal of suspected drugs are very important. In a large multinational case-control study involving 379 cases (see weblink 1, below), the most commonly associated drugs were:

- Allopurinol
- Aromatic anticonvulsants: carbamazepine, phenobarbital, lamotrigine, phenytoin
- Antibacterial sulphonamides: co-trimoxazole
- Oxicam NSAIDs
- Also, less frequently, cephalosporins, fluoroquinolones, vancomycin, rifampicin.

High doses and rapid introduction of medications can also be a risk factor.

A	Intravenous fluid supplementation

Supportive care in Stevens-Johnson syndrome is the same as for major burns and wound care. Although intravenous fluid supplement would be beneficial for the patient, withdrawing the suspected drug will improve prognosis.

B	Systemic corticosteroids

The use of systemic corticosteroids in patients has not been evaluated in clinic trials, but a systematic review of case series and a mortality analysis of the RegiSCAR cohort did not suggest corticosteroids improved survival rates.

C	Debridement

Only frankly necrotic skin should be debrided.

E	Topical steroids

HIV is known to be a risk factor for Stevens-Johnson syndrome and the reason why the patient is in HDU could be related to this; however, the most important first-line management is to withdraw the suspected medication, as this can improve the prognosis of Stevens-Johnson syndrome significantly.

The above describes Stevens–Johnson syndrome (SJS), which is a mucocutaneous drug-induced (or sometimes idiopathic) reaction pattern characterised by skin tenderness, erythema of skin and mucosa, followed by extensive epidermal necrosis and sloughing. Nicolsky's sign is described - the ability to extend the area of superficial sloughing by applying gentle lateral pressure to the skin at an apparently uninvolved sign. The Asboe-Hansen sign is also described - a lateral extension of the bullae with pressure. It is potentially life-threatening due to multi-system involvement. Severity and prognosis can be scored using the SCORTEN score (see reference below). The ICU/burns unit setting is dependent on the extent of skin involvement and presence of co-morbidites. The SCORTEN score can be used to determine whether the clinic setting is appropriate for the patient.

Lymphopenia, anaemia, hypoalbuminaemia, high urea and creatinine, electrolyte imbalances as well as raised glucose and ALT can be seen in SJS.

Other aspects of management to consider after withdrawing the suspected drug include the following:

- Fluids and nutrition
- Pain control
- Wound care
- Prevention and treatment of infections
- Ocular management

N.B. Intravenous immune globulin (IVIG): there is no high-quality evidence supporting the use of IVIG, but this could be used in the early phase of the disease in severe cases.

Reference:

SCORTEN: a severity-of-illness score for toxic epidermal necrolysis. DOI: 10.1046/j.1523-1747.2000.00061.x.

9203

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Responses Correct:	0
Responses Incorrect:	80
Responses Total:	80
Responses - % Correct:	0%

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This 50-year-old gentleman was reviewed in the respiratory clinic after being referred by his GP with a persistent productive cough This has developed over the past 24 months after multiple episodes of recurrent pneumonia. He has also been experiencing dyspnoea, especially on exertion, and has also exhibited rhino-sinusitis symptoms. In the clinic, the clinician noted the following sign (please see accompanying photo) on examination.

Which of the following is the most likely diagnosis?

A	Asthma
B	Pulmonary fibrosis
C	Bronchiectasis
D	Cystic fibrosis
E	Lymphoma

9204

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Normal Values

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This 50-year-old gentleman was reviewed in the respiratory clinic after being referred by his GP with a persistent productive cough This has developed over the past 24 months after multiple episodes of recurrent pneumonia. He has also been experiencing dyspnoea, especially on exertion, and has also exhibited rhino-sinusitis symptoms. In the clinic, the clinician noted the following sign (please see accompanying photo) on examination.

Which of the following is the most likely diagnosis?

A	Asthma
B	Pulmonary fibrosis
C	Bronchiectasis
D	Cystic fibrosis
E	Lymphoma

Explanation

C	Bronchiectasis

The picture above shows yellow nail syndrome, which is characterised by the triad of pulmonary disease, lymphoedema and slow-growing nails with no cuticle or lunula. Swelling of the peri-ungal tissue and onycholysis can occur. Bronchiectasis, pleural effusions, chronic sinusitis and recurrent pneumonias are commonly associated with yellow nail syndrome. This gentleman has likely developed bronchiectasis due to recurrent pneumonias. There may also be hereditary causes, and it has been associated with an autosomal dominant inheritance pattern. Other associations include: obstructive sleep apnoea, tuberculosis, malignancy, diabetes mellitus, connective tissue disease, nephrotic syndrome, penicillamine use and thyroid disease. Furthermore, sinusitis can be associated with bronchiectasis.

Thirty per cent of cases go into spontaneous remission. Treatments for yellow nail syndrome include high-dose vitamin E.

References:

Yellow nail syndrome: analysis of 41 consecutive patients. doi: 10.1378/chest.08-0137

Yellow nail syndrome and lung lymphoma. doi: 10.1111/j.1365-2230.2004.01541.x

A	Asthma

Asthma is not associated with yellow nail syndrome. Extra-pulmonary features of asthma include: allergic rhinitis, nasal polyps and atopic dermatitis.

B	Pulmonary fibrosis

Pulmonary fibrosis is more likely to be associated with acquired bilateral digital clubbing.

D	Cystic fibrosis

Cystic fibrosis is associated with bilateral digital clubbing.

E	Lymphoma

Although there have been a case report regarding lung lymphoma and yellow nail syndrome (see below), in this case bronchiectasis is more commonly associated with yellow nail syndrome, especially in a respiratory clinic setting.

9204

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Difficulty: Easy

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Responses Correct:	0
Responses Incorrect:	81
Responses Total:	81
Responses - % Correct:	0%

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A 29-year-old woman who is 34 weeks' pregnant presents with an erythematous blistering rash on her upper thigh and abdomen. There is no history of systemic illness and the pregnancy has been unremarkable so far. She has no past medical history of note and took no regular medication before her pregnancy. On examination there are multiple, small, irregularly shaped blisters over the lower abdomen and the tops of her thighs. Blood pressure and temperature are normal.

Investigations:

Hb	10.9 g/dl
WCC	5.8 $x10^9$/l
PLT	190 $x10^9$/l
Na^+	139 mmol/l
K^+	4.6 mmol/l
Creatinine	90 µmol/l
ESR	10 mm/hr

Given the likely dermatological diagnosis, which of the following represents the most appropriate initial treatment for this patient?

A	Oral prednisolone
B	Acyclovir ointment
C	Corticosteroid ointment
D	Oral antihistamines
E	Intravenous immunoglobulins

20631

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Calculator

Normal Values

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A Oral prednisolone

B Acyclovir ointment

C Corticosteroid ointment

D Oral antihistamines

E Intravenous immunoglobulins

Explanation

C Corticosteroid ointment

High-potency topical corticosteroids are indicated for localised disease, e.g. her lower abdomen and top of thighs.

A Oral prednisolone

This treatment line is indicated if topical steroids are not controlling the symptoms.

B Acyclovir ointment

This condition is not viral in nature and therefore will not respond to acyclovir.

D Oral antihistamines

This may only help with symptomatic pruritus control rather than treating the autoimmune condition.

E Intravenous immunoglobulins

This may be indicated only if the patient has severe persistent postpartum pemphigoid gestationis or does not respond to oral corticosteroids/corticosteroids, or these are not suitable (e.g. gestational diabetes).

This patient has pemphigoid gestationis (which was previously known as herpes gestationis). This is a rare autoimmune bullous disease that occurs during 2nd or 3rd trimester. It can be associated with increased fetal risk, such as preterm birth. It is caused by circulating autoantibodies directed against the BP 180 antigen, which is a transmembrane glycoprotein expressed in the basement membrane zone of the skin. Antibodies against the BP 180 antigens can be detected in the serum and can be used to monitor response to treatment.

Treatment of pemphigoid gestationis is to decrease blister formation, promote healing and relieve pruritis. Topical corticosteroids are usually indicated initially, especially if the condition is localised. Oral corticosteroids can be introduced if the rash is more widespread or if there is no response to the topical treatment. Immunosuppression agents, such as azathioprine, IVIG or cyclosporine, could also be used as alternatives in severe postpartum pemphigoid gestationis.

2063.1

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Session Progress

Responses Correct:	0
Responses Incorrect:	82
Responses Total:	82
Responses - % Correct:	0%

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A 73-year-old woman who has suffered a dense, left-sided hemiplegia is admitted from the care home where she lives because the GP has noticed a severe sacral pressure ulcer. On examination you can see a stage 3 pressure ulcer with a great deal of exudative material.

Which of the following is the most appropriate management?

A	Hydrocolloid dressing
B	Gauze dressing
C	Foam based dressing
D	Alginate based dressing
E	Leave the sore open to the air

21003

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Calculator

Normal Values

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Which of the following is the most appropriate management?

A	Hydrocolloid dressing
B	Gauze dressing
C	Foam based dressing
D	Alginate based dressing
E	Leave the sore open to the air

Explanation

D	Alginate based dressing

This lady has exudate material within her pressure ulcer, and therefore she needs an absorptive dressing to avoid build-up of chronic exudate fluid which will affect wound healing. This is the most appropriate option as this dressing forms a gel when it comes into contact with the exudative material. Dressings serve to protect the wound from contamination and facilitate healing by absorbing exudate and protecting healing surfaces. Excess fluid causes wound maceration, while desiccation will slow epithelial cell migration. An absorptive dressing should be used to avoid build-up of chronic wound fluid that can macerate the wound and inhibit cell proliferation and wound healing.

A	Hydrocolloid dressing

Hydrocolloid dressings are useful to prevent bacterial contamination, reduce friction and shear and encourage a moist environment for more rapid healing, but only when there is no substantial exudate. Desiccated wounds lack wound fluids, which provide tissue growth factors to facilitate re-epithelialisation. Healing of pressure-induced injuries is promoted by dressings that maintain a moist wound environment while keeping the surrounding intact skin dry. Choices for a dry wound include saline-moistened gauze, transparent films, hydrocolloids and hydrogels.

B	Gauze dressing

NICE has specifically mentioned that gauze dressing are not to be used to treat pressure ulcers in adults.

C	Foam based dressing

Foam-based dressing will absorb the exudate, but the alginate-based dressing will form a gel that is more likely to promote a warm, moist wound healing environment for grade 2-4 pressure ulcers (as suggested by NICE).

E	Leave the sore open to the air

This will lead to an infection risk and potentially to a build-up of exudate material.

Wound management as advised by NICE:

Consider using a dressing for adults that promotes a warm, moist wound healing environment to treat grade 2, 3 and 4 pressure ulcers. Do not offer gauze dressings to treat a pressure ulcer in adults. Do not routinely use topical antiseptics or antimicrobials to treat a pressure ulcer in adults.

GENERAL CARE - The general approach to management of a patient with pressure ulcers should include the following.

- Reduce or eliminate underlying contributing factors by providing pressure redistribution with proper positioning and support surfaces.
- Provide appropriate local wound care, which may include debridement for patients with necrotic tissue, based on the ulcer's characteristics.
- Consider adjunctive therapies, such as negative pressure wound therapy.
- Monitor and document the patient's progress.
- Provide appropriate psychosocial support.

Reference:

Treatment of pressure ulcers: a systematic review. *JAMA* 2008 Dec 10;300(22):2647-2462. doi: 10.1001/jama.2008.778

21003

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Session Progress

Responses Correct:	0
Responses Incorrect:	83
Responses Total:	83
Responses - % Correct:	0%

External Links

Pressure ulcers: prevention and management
nice.org.uk/guidance/cg179/chapter/1-Recommendations#management-adults

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A 48-year-old man from Brazil, who has been visiting his sister in England, attends the neurology clinic with a left-sided foot drop. On examination you note a number of hypopigmented lesions on his upper and lower limbs within which there is decreased sensation. The superficial nerves in his limbs are palpable and tender. He also has an ulcer on the palmar region of his hand, of which he was unaware.

Investigations:

Hb	12.0 g/dl
WCC	6.7 $x10^9$/l
PLT	201 $x10^9$/l
Na^+	141 mmol/l
K^+	4.9 mmol/l
Creatinine	120 µmol/l

Which of the following is the most useful test to confirm the diagnosis?

A	Lepromin test
B	Skin biopsy
C	Heaf test
D	M Leprae serology
E	Culture of skin scrapings

21015

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Calculator

Normal Values

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D	M Leprae serology
E	Culture of skin scrapings

Explanation

Whilst the lepromin test indicates resistance to M Leprae, the result does not confirm the diagnosis of leprosy. Skin biopsy is the most specific investigation, revealing granuloma formation, neuritis and the presence of acid-alcohol fast bacilli. Treatment is defined by the morphologic index, a measure of the number of viable bacilli per 100 bacilli seen in the lepromatous tissue. Whilst serology and PCR may be useful in making the diagnosis, they may be negative in early disease.

21015

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Responses Correct:	0
Responses Incorrect:	84
Responses Total:	84
Responses - % Correct:	0%

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A 34-year-old man with rapidly worsening psoriasis comes to the clinic for review. He has been given some topical steroid creams by his GP but these have not improved his condition. On examination he has contiguous patches of psoriasis.

Which of the following would be the most appropriate next stage therapy?

A	Infliximab
B	Vitamin D analogue
C	Retinoid cream
D	Coal tar
E	Methotrexate

21016

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Calculator

Normal Values

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E	Methotrexate

Explanation

Coal tar is the most commonly used second line therapy in patients who have failed to respond to topical corticosteroids, although this isn't supported by a recent Cochrane review which supports use of vitamin D analogues ahead of coal tar, hence the correct answer here. Antimetabolites such as methotrexate or immunomodulators such as cyclosporine can be considered in patients who still fail to improve. Finally, anti-TNF monoclonal antibodies such as infliximab or t-cell modulating monoclonals may be potential therapeutic options.

21016

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Responses Correct:	0
Responses Incorrect:	85
Responses Total:	85
Responses - % Correct:	0%

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A 73-year-old man, who grew up in South Africa, presents to the clinic with a lesion on his cheek that often bleeds when he washes his face and dries himself with a towel. On examination he has a 1 cm pearly lesion on his left cheek that has areas of skin erosion, crusting and dried blood from previous trauma. He had an excision of the skin lesion, but histology confirms that the lesion has been incompletely excised.

Investigations:

Hb	12.3 g/dl
WCC	8.2 $x10^9$/l
PLT	219 $x10^9$/l
Na^+	139 mmol/l
K^+	4.9 mmol/l
Creatinine	130 µmol/l
Skin biopsy	Uniform cells seen with large hyperchromatic nuclei, but relatively few mitotic figures

Which management option should be offered to the patient?

A	Lymph node biopsy
B	CT thorax, abdomen and pelvis
C	Celecoxib
D	Regular follow-up
E	Radiotherapy

21281

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Calculator

Normal Values

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Na^+	139 mmol/l
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Skin biopsy	Uniform cells seen with large hyperchromatic nuclei, but relatively few mitotic figures

Which management option should be offered to the patient?

A Lymph node biopsy

B CT thorax, abdomen and pelvis

C Celecoxib

D Regular follow-up

E Radiotherapy

Explanation

D Regular follow-up

This man has a basal cell carcinoma (BCC), which is most likely to be related to excess sun exposure during his time living in South Africa. The histopathology is very typical of a BCC.

For primary nodular or superficial BCC <10 mm located in non-critical areas of the face (i.e. cheeks, forehead, scalp, neck), conventional surgical excision with 4-5 mm margins is usually considered as first-line therapy. Second-line therapies for superficial or nodular lesions located in non-critical areas of the face include electrodessication and curettage (ED&C), topical therapies (i.e. imiquimod, 5-fluorouracil [5-FU]) or cryosurgery, depending upon the clinician's experience and patient's characteristics and preferences.

A Lymph node biopsy

These lesions are typically slow growing and tend to extend locally. Metastatic BCCs are associated with deeply invasive and large lesions, e.g. area >10 cm.

B CT thorax, abdomen and pelvis

These lesions are typically slow growing and tend to extend locally. Metastatic BCCs are associated with deeply invasive and large lesions, e.g. area >10 cm.

C Celecoxib

Previous research has focused on the potential of celecoxib being beneficial for chemoprevention rather than treatment . Furthermore, celecoxib is associated with an increase in cardiovascular risk and is contraindicated in patients who have undergone coronary artery bypass graft. This patient is over 65, which is a risk factor for patients who may need to use NSAIDs on a longer-term basis.

Reference: Elmets CA, Viner JL, Pentland AP, Cantrell W, Lin HY, Bailey H, Kang S, Linden KG, Heffernan M, Duvic M, Richmond E. Chemoprevention of nonmelanoma skin cancer with celecoxib: a randomized, double-blind, placebo-controlled trial. *Journal of the National Cancer Institute*. 2010 Nov 29;102(24):1835-1844.

E Radiotherapy

The best indications for radiotherapy are BCC with incomplete excision, recurrent BCC, nodular BCC of the head and neck <2 cm and BCC with invasion of bone or cartilage.

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A 78-year-old war veteran is admitted for plastic surgery for a 3 cm nodular basal cell carcinoma (BCC) on the left side of his face. Past medical history of note includes hypertension, which is managed with amlodipine 10 mg daily and AF without demonstrable valvular disease, although he is warfarinised. He omits his warfarin for 5 days before surgery, he is given low-molecular weight heparin and his INR is 1.3.

Which of the following is the most appropriate way to manage the BCC?

A	Electrodessication and curettage
B	Excision
C	Topical 5-FU
D	Radiation therapy
E	Cryotherapy

21533

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Calculator

Normal Values

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A	Electrodessication and curettage
B	Excision
C	Topical 5-FU
D	Radiation therapy
E	Cryotherapy

Explanation

B	Excision

Excision is the most appropriate treatment for nodular, infiltrative and morpheoic BCCs. Cryotherapy, curettage and other treatment methods are second to excision for sensitive areas such as the face. Excision of BCCs is a low-risk procedure when the warfarin has been stopped some 5 days prior to surgery and he is now managed with low-molecular weight heparin. Wafarin may be recommenced at the surgeon's discretion, a few days after surgery.

A	Electrodessication and curettage

This is a fast and easily performed treatment for BCCs, but the procedure does not allow histological confirmation, is highly operator dependent and requires considerable experience to achieve low recurrence rates. This is most appropriate for low-risk superficial or nodular BCCs on the trunk or extremities.

Reference: Blixt E, Nelsen D, Stratman E. Recurrence rates of aggressive histologic types of basal cell carcinoma after treatment with electrodesiccation and curettage alone. *Dermatologic Surgery*. 2013 May 1;39(5):719-725.

C	Topical 5-FU

This is used to treat small superficial BCCs rather than nodular ones. 5-FU interferes with DNA synthesis by inhibiting thymidylate synthetase. Long-term favourable cosmetic results are one of the main advantages of topical 5-FU. Topical 5-FU is usually used twice daily and is applied for up to 12 weeks.

Reference: Gross K, Kircik L, Kricorian G. 5% 5-Fluorouracil cream for the treatment of small superficial basal cell carcinoma: efficacy, tolerability, cosmetic outcome, and patient satisfaction. *Dermatologic Surgery*. 2007 Apr 1;33(4):433-440.

D	Radiation therapy

Radiation therapy can be used to treat BCC with incomplete excision, recurrent BCC, nodular BCC of the head and neck (<2 cm) and BCC with invasion of bone/cartilage. It is used if surgery is not suitable, but this gentleman's warfarin has been stopped and his INR is 1.3 (and he has omitted warfarin for 5 days).

E	Cryotherapy

Cryosurgery is cost effective and requires minimal anaesthesia, but the procedure is contraindicated in patients with lesions with features associated with a high risk for recurrence, those who are concerned about a poor cosmetic outcome (as it can lead to permanent hypopigmentation and scarring), and those with a physiologic intolerance to cold. Furthermore, recurrence rates for primary BCCs range from 4-17%.

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21533

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Session Progress

Responses Correct:	0
Responses Incorrect:	87
Responses Total:	87
Responses - % Correct:	0%

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A 32-year-old gentleman presents with polyuria and malaise. He also complains of a three-week history of an erythematous rash in the groin as shown below, which appears to be getting worse.



He tells you he has had it intermittently for years but he feels each time he gets it the symptoms are worse. It is very itchy and he is complaining of dysuria. He denies urethral discharge or irritation. He has a regular girlfriend. He is a non-smoker and drinks very little alcohol.

Which of the following investigations would be most useful in assessing why he is susceptible to infection?

A	Syphilis serology
B	Urine dipstick
C	Serum fasting glucose
D	Urethral swab
E	Skin biopsy

33381

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Calculator

Normal Values

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A 32-year-old gentleman presents with polyuria and malaise. He also complains of a three-week history of an erythematous rash in the groin as shown below, which appears to be getting worse.



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A	Syphilis serology
B	Urine dipstick
C	Serum fasting glucose
D	Urethral swab
E	Skin biopsy

Explanation

C	Serum fasting glucose

This gentleman's symptoms are suggestive of diabetes, and *Candida albicans* infections are common in diabetics. A serum fasting glucose of >7 or single random plasma glucose of >11.1 can confirm the diagnosis of diabetes in symptomatic patients. Furthermore, HBA1c can be a diagnostic test; a cut-off point of HBA1c 6.5% (48 mmol/mol) is recommended for diagnosing type 2, but it is not suitable for the diagnosis of suspected type 1 diabetes, which is more likely in this case.

This gentleman has intertrigo. *Candida* skin infections usually present with soreness and itching and are caused by *Candida* species.

Risk factors for mucocutaneous candidiasis are:

- Pregnancy or high-oestrogen contraceptive pill
- Iron deficiency
- Underlying skin disease, e.g. psoriasis, dermatitis
- General debility, e.g. cancer or malnutrition
- Local factors: heat, moisture, skin maceration, topical corticosteroids, poor dental care
- Extremes of age
- Immunocompromised patients, e.g. HIV, chemotherapy, corticosteroid treatment, Cushing's disease
- Diabetes mellitus.

General management of *Candida* skin infections includes the following: avoiding occlusion of skin, avoiding obesity, keeping skin dry, washing with emollients as soap substitutes and drying thoroughly after washing.

First-line treatment is usually a topical imidazole cream, e.g. clotrimazole, econazole, ketoconazole or miconazole. Topical terbinafine is an alternative.

If there is problematic itch or inflammation, consider adding a mild corticosteroid cream for 7-14 days.

Oral fluconazole 50 mg/day for 2-4 weeks if: topical treatment is ineffective or there is widespread infection or if the patient is immunocompromised (depending on the severity of infection and the level of immunocompromise). Review after 2 weeks of fluconazole treatment.

Reference: Eyerich K, Eyerich S, Hiller J, et al; Chronic mucocutaneous candidiasis, from bench to bedside. *Eur J Dermatol*. 2010 May/Jun 20(3):260-265. Epub 2010 Feb 5.

A	Syphilis serology

The rash is not suggestive of syphilis, which can present as a painless genital ulcer or a diffuse macular/popular rash involving the whole trunk and extremities.

B	Urine dipstick

Urine dipstick may confirm glycosuria but will not confirm the diagnosis of diabetes mellitus.

D	Urethral swab

If the skin breaks down, this can be associated with dysuria in the absence of a urinary tract infection. There is also no indication that there is any urethral pus.

E	Skin biopsy

Candida albicans (thrush) is usually a clinical diagnosis and does not require skin biopsies.

33381

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Difficulty: Average

Peer Responses %

Session Progress

Responses Correct:	0
Responses Incorrect:	88
Responses Total:	88
Responses - % Correct:	0%

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A 30-year-old teacher attends with a 7-day history of malaise, fatigue, dry cough and shortness of breath on exertion. Three days ago, she developed an itchy rash. She is asthmatic and takes salbutamol inhalers regularly.
On examination she has cold sores on her upper lip. There are annular plaques present on the forearms, trunk and lower limbs. Some are clearing in the centre. There are a few vesicles. The throat is inflamed and the tonsils enlarged. The chest is clinically clear, but there are striking changes on X-ray suggestive of right lower lobe consolidation.

Investigations:

Hb	10.0 g/dl
WCC	8.2×10^9/l
PLT	500×10^9/l
Na^+	139 mmol/l
K^+	4.9 mmol/l
Creatinine	100 mol/l
Coomb's test	+

What is the most likely cause of her respiratory symptoms?

A	Pneumococcal pneumonia
B	*Haemophilus influenzae* type B pneumonia
C	Chicken pox
D	Pulmonary vasculitis
E	*Mycoplasma* pneumonia

33382

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Calculator

Normal Values

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A 30-year-old teacher attends with a 7-day history of malaise, fatigue, dry cough and shortness of breath on exertion. Three days ago, she developed an itchy rash. She is asthmatic and takes salbutamol inhalers regularly.
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Explanation

E	*Mycoplasma* pneumonia

Mycoplasma pneumonia can present with dermatologic manifestations, which can range from a mild erythematous maculo-papular or vesicular rash (which is most commonly seen accompanying respiratory tract infections) to Stevens-Johnson syndrome. Subclinical haemolytic anaemia can present in patients with *Mycoplasma*, which are suggested by a positive Coomb's test. WCC can be normal in up to 90% of cases and can be accompanied by thrombocytosis, most likely due to an acute phase response.

This lady has a rash consistent with erythema multiforme, with symptoms of an upper respiratory tract infection preceding the eruption. She may well have suffered *Mycoplasma* pneumonia that has begun to resolve after antibiotic therapy.

Around 90% of erythema multiforme cases are usually associated with infections.

The single most common trigger for developing erythema multiforme is herpes simplex virus (HSV) infection, and usually precedes the skin eruption by 3–14 days. *Mycoplasma* pneumonia is the next most common trigger.

Other viral infections include:

- Parapoxvirus (orf and milkers' nodules)
- Herpes varicella zoster (chickenpox, shingles)
- Adenovirus
- Hepatitis viruses
- Human immunodeficiency virus (HIV)
- Cytomegalovirus
- Viral vaccines.

The initial lesions are sharply demarcated, round, red/pink and flat (macules), which become raised (papules/palpable) and gradually enlarge to form plaques (flat raised patches) up to several centimetres in diameter. The centre of the papule/plaque darkens in colour and develops surface (epidermal) changes such as blistering or crusting. Lesions usually evolve over 72 h. The typical target lesion (also called iris lesion) of erythema multiforme has a sharp margin, regular round shape and three concentric colour zones: the centre is dark red, the next ring is paler and raised due to oedema and the outermost ring is bright red.

Mycoplasma pnuemonia usually presents with vague and slow-onset history over a few days or weeks of constitutional upset, fever, headache, dry cough with tracheitic ± pleuritic pain, myalgia, malaise and sore throat. Raynaud's phenomenon may also be seen in *M. pneumoniae* infection, possibly secondary to cold agglutinin formation. *Mycoplasma* and *Chlamydophila* spread by person-to-person contact, and spread is most common in closed populations - e.g. schools, offices. This is like many of the common viral illnesses, but the persistence and progression of symptoms is what helps to mark it out.

A	Pneumococcal pneumonia

This usually presents with abrupt illness with rigors, cough and myalgia in young patients similar to this case. It is not commonly associated with erythema multiforme.

B	*Haemophilus influenzae* type B pneumonia

This patient is likely to have been vaccinated for *H. influenzae*, and therefore the chance of developing *Haemophilus* influenza is likely, especially if she is not immunosuppressed. Furthermore, *Haemophilus* influenza is more likely to affect the oldest and youngest groups.

C	Chicken pox

Varicella-zoster infection manifests first as macules and then as vesicles, which then become crusted papules rather than the annular plaques seen in this case.

D	Pulmonary vasculitis

Pulmonary vasculitis, such as granulomatosis with polyangiitis (GPA) and microscopic polyangiitis (MPA), is likely to manifest with a mixture of both upper and lower respiratory tract symptoms and signs. Upper respiratory symptoms and signs include rhinosinusitis, nasal discharge and nasal crusting. Lower respiratory tract symptoms and signs include cough, haemoptysis, dyspnoea and pleuritic chest pain.

This lady has a rash consistent with erythema multiforme with symptoms of an upper respiratory tract infection preceding the eruption. She may well have suffered mycoplasma pneumonia, which has begun to resolve after antibiotic therapy. Clinical signs which are out of kilter when compared to x-ray appearance are also a feature of mycoplasma. Individual target lesions last several days resolving with transient hyperpigmentation. Erythema multiforme has also been described as occurring some 1–2 weeks after a herpes virus infection. Treatment of any underlying infection, in this case with a macrolide antibiotic, leads to a resolution of the rash.

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A 44-year-old female presents with progressive swelling of both hands. She has noticed them becoming whiter at times. She also complains of dyspnoea on exertion of up to 400 yards. She denies any palpitations or chest pain. She smokes 25 cigarettes a day and drinks 14 units of alcohol a week. She currently takes lansoprazole prescribed by her general practitioner (GP) for gastro-oesophageal reflux disease. Examination of her hands reveals evidence of calcinosis.

Which of the following investigations is most likely to point to the underlying diagnosis?

A	Erythrocyte sedimentation rate (ESR) level
B	Eosinophil level
C	Antinuclear antibody
D	Extractable nuclear antigen
E	Anticentromere antibody

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Explanation

Scleroderma is a rare multi-system chronic condition of unknown cause. It is characterised by tissue fibrosis, small blood vessel vasculopathy (Raynaud's phenomenon) and autoimmunity. Diffuse scleroderma is characterised by both cutaneous and visceral involvement, with rapid skin thickening on the extremities, face and trunk. Limited scleroderma has a lower risk of early visceral involvement. When associated with calcinosis, Raynaud's phenomenon, oesophageal dysmotility and telangiectasia it is referred to as CREST. In scleroderma, anti-topoisomerase antibody is positive in up to 60% of patients. Anti-centromere antibodies are most strongly associated with CREST (specificity 90%+).

33383

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Responses Correct:	0
Responses Incorrect:	90
Responses Total:	90
Responses - % Correct:	0%

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A 38-year-old accountant presents with a five-week history of an ulcer on his lower lip. It is painless. He was given aciclovir by his general practitioner (GP) with little effect. He has also been using chlorhexidine mouthwash with some improvement. Over the last week he has been feeling tired with a sore throat and flu-like symptoms preventing him from going to work. He tells you that he is homosexual and has had at least ten sexual partners in the last three months. He also admits to having unprotected sexual intercourse during this time. He is a smoker of 30 cigarettes a day and drinks 25 units/week. His past medical history includes gonorrhoea infections and genital warts.

On examination there is an ulcerated lesion on the inner lower lip. There are two other smaller ulcers on the inner right cheek. There are no other skin lesions elsewhere except a small patch of alopecia at the occiput. Cervical lymph nodes are palpable.

Respiratory, abdominal, neurological and external genitalia examinations are unremarkable.

Which of the following diagnoses is most likely?

A	Syphilis – primary stage
B	Syphilis – secondary stage
C	Herpes simplex virus type I
D	Pyogenic granuloma
E	Behçet's disease

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Respiratory, abdominal, neurological and external genitalia examinations are unremarkable.

Which of the following diagnoses is most likely?

A	Syphilis – primary stage
B	Syphilis – secondary stage
C	Herpes simplex virus type I
D	Pyogenic granuloma
E	Behçet's disease

Explanation

Orogenital sex poses a low risk for HIV transmission but it is a common route of syphilis acquisition. The symptoms could however also be accounted for by HIV seroconversion illness given his very high risk sexual behaviour. Secondary syphilis usually commences 4–10 weeks after the primary chancre (which can commonly occur in the oral cavity), but the two stages are sometimes concurrent. Patients usually present with maculopapular rashes affecting the entire trunk, but any form of lesion may occur. Alopecia is well recognised as are multiple painless aphthous ulcers. Sore throat, myalgia, fever and weight loss are common to both conditions.

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Responses Correct:	0
Responses Incorrect:	91
Responses Total:	91
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A 45-year-old woman presented with a two-month history of a persistent red rash on her body. It started out on the abdomen and spread to involve her legs, back and arms. Her past medical history includes type II diabetes mellitus, alcoholism, and alcohol-related pancreatitis. Her current medications are carbamazepine and atorvastatin. She drinks more than 60 units a week.
On examination she has widespread exfoliative erythema affecting her trunk and limbs, worse in the flexures. She also has glossitis.

Investigations are as follows:

Hb	10g/dl
MCV	105 fl
WCC	11.4 × 10^9/l
PLT	110 × 10^9/l
Gamma glutamyl transferase	1560 U/l
ALT	73 U/l
Amylase	202 IU/l (normal 48–330 IU/l)

What investigation would be most helpful in elucidating a cause for the rash?

A	Amino acid level
B	Serum cholesterol
C	Serum glucagon level
D	Liver biopsy
E	Vitamin B6 levels

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E	Vitamin B6 levels

Explanation

The clinical features in this patient can be seen in necrolytic migrating erythema, protein malnutrition and zinc deficiency. Necrolytic migrating erythema is a figurate erythema with a moving crusted edge. When present, usually with anaemia, stomatitis, weight loss and diabetes, it signals the presence of a rare glucagon-secreting tumour of the pancreas. In alcoholics however, nutritional deficiencies cause many overlapping symptoms making the diagnosis difficult. Alcoholics are at risk of zinc deficiency because of poor diet and also because of the direct effect of alcohol increasing the urinary excretion of zinc.

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Responses Correct:	0
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A 16-year-old girl presents with painful lesions on her face. They have been spreading in size over the last few days. She has been suffering from rhinorrhoea and flu-like symptoms over the last week and has been 'off' her food.



What diagnosis should be considered?

A	Fifth disease
B	Impetigo
C	Perioral dermatitis
D	Herpes zoster infection
E	Erysipelas

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Normal Values

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What diagnosis should be considered?

A	Fifth disease
B	Impetigo
C	Perioral dermatitis
D	Herpes zoster infection
E	Erysipelas

Explanation

Impetigo is a common superficial infection of the epidermis occurring mainly in children. It is usually due to Staphylococcus aureus, a group A beta-haemolytic streptococcus or a mixture of both. It is very contagious. It typically starts as vesicles which then break down to form honey-coloured crusts.
Herpes simplex infection caused by herpes simplex virus type I is often recurrent and always recurs at the site at which the primary infection was e.g. the mouth. Most patients experience a prodromal sensation of itching, burning or tingling. A few hours later small grouped vesicles appear, burst, crust and then heal in 7–10 days. These episodes can be precipitated by fever, hence the name 'cold sore'. Herpes simplex can be differentiated from impetigo by the history of recurrent episodes, prodromal pain and initial vesicles containing clear fluid. In adults certainly it is more likely than impetigo. If in doubt viral polymerase chain reaction (PCR) will confirm the diagnosis.

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A 58-year-old gentleman presents with progressive changes in his facial skin. He has noticed reddening with painful spots on his face and a gradual swelling and distortion of his nose.



In his past medical history he had a renal transplant in 1989. He takes a list of medications but he cannot remember exactly what they are. He is a non-smoker and drinks 14 units of alcohol per week. He has no allergies. He tells you that since he went on holiday to Spain this year the symptoms have got worse. He lives with his wife.
One examination the patient has numerous erythematous and yellowish papules and nodules as well as swelling of the nose. The skin over the trunk is covered with extensive seborrhoeic warts. There were a couple of actinic keratoses on the scalp.

What diagnosis would most explain the appearance?

A	Hyperlipidaemia
B	Chronic uraemia
C	Cutaneous lymphoma
D	Rosacea
E	Acne vulgaris

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Normal Values

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What diagnosis would most explain the appearance?

A	Hyperlipidaemia
B	Chronic uraemia
C	Cutaneous lymphoma
D	Rosacea
E	Acne vulgaris

Explanation

This gentleman has rhinophyma – localised swelling of soft tissue with variable combinations of sebaceous hyperplasia, fibrosis and lymphoedema. Sebaceous hyperplasia is a recognised side-effect of ciclosporin treatment, particularly on the skin of renal transplant patients when exposed to sunlight.
Rosacea is a rash which although more common in females occurs in males and is associated with rhinophyma. It is an erythema of the face with telangiectasia. It is similar to acne in that there are papules and pustules but no comedones. Complications such as blepharitis, chronic lymphoedema of the face and rhinophyma occur more commonly in men.
Steroid rosacea is as a result of topical steroids to the face usually. Unfortunately a large number of people use other family members' creams and ointments without seeking advice from the doctor first. It is important to ensure that you question the patient about use of all topical treatments.
Contrary to popular belief, it is not associated with excessive alcohol intake. Skin cancers, despite being more common in renal transplant patients always present as ulcerative nodular lesions before infiltrating deeper. Active rosacea should be treated with oral antibiotics in the first instance. Treatment of the rhinophyma by surgical excision or physical ablation of excess tissue may improve cosmetic appearance.

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A 66-year-old woman is admitted under the cardiologists with chest pain. While awaiting invasive investigations the team has become increasingly concerned by the striking changes affecting the woman's lower legs.



Of note, the patient is a known hypertensive and tells you that in the past she had eczema of her legs which was treated using bandages. She lives alone and her daughter attends weekly to change the bandages. Over the last 3 weeks however, her daughter has been on holiday abroad and so hasn't managed to change them.
The patient denies any pain. She is afebrile. The pedal pulses are palpable. The lower legs look as though they are encased in cardboard! There is little oedema but no serous exudate. It smells offensive. The skin on the legs above the knees is entirely normal. Her blood tests on admission are unremarkable. She feels well in herself now that she has been given some analgesia for her chest pain.

Which of the following management options is preferable?

A	Moderately potent topical steroids
B	Potassium permanganate soaks
C	Compression stockings
D	Gentle debridement
E	Oral flucloxacillin

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C	Compression stockings
D	Gentle debridement
E	Oral flucloxacillin

Explanation

This lady has a common condition found on elderly care wards – retention hyperkeratosis. The treatment for varicose eczema in the past with bandages that were changed infrequently interferes with the normal process of desquamation and results in this condition – a build up of keratin. It is a benign but malodorous condition that can be treated very well with gentle debridement after soaking in arachis oil, revealing normal skin underneath. Recurrence can be prevented by skin care with emollients.

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A 36-year-old gentleman presents with a painful blistering rash affecting his body.



He has been feeling unwell and his appetite has reduced remarkably. On examination there are erythematous papules and blisters on the palms, dorsum of hands (see figure), forearms and a few on the trunk. The lips are eroded with multiple aphthous ulcers in the mouth. The eyes are injected.

How would you manage his mouth ulcers initially?

A	Chlorhexidine mouthwashes
B	Systemic steroids
C	Intravenous flucloxacillin
D	Intravenous immunoglobulins
E	Commence azathioprine

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B	Systemic steroids
C	Intravenous flucloxacillin
D	Intravenous immunoglobulins
E	Commence azathioprine

Explanation

This patient has Stevens-Johnson syndrome, and requires hospital admission for nutritional and skin care support. The causes of Stevens–Johnson syndrome are the same as for erythema multiforme but usually drugs are the cause rather than infections. It is therefore imperative to stop all drugs in the first instance. There is no evidence that systemic steroids are helpful. Intravenous immunoglobulins may be useful in the management of toxic epidermal necrolysis, a meta-analysis showed a trend towards improved mortality, although the overall quality of studies is poor. Antibiotics are not useful. Throat swab for streptococcus and chest X-ray looking for evidence of mycoplasma pneumoniae are useful steps in the management but not the initial steps. In the first instance chlorhexidine mouthwashes are helpful to prevent secondary infection of mouth lesions.

http://onlinelibrary.wiley.com/doi/10.1046/j.1365-2222.2000.00887.x/abstract

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A 68-year-old gentleman is under the care of the haematologists. He is undergoing chemotherapy for non-Hodgkin's lymphoma. He has been extensively investigated for left-sided chest pain and a recent angiogram demonstrated normal coronaries. On the ward the nursing staff has noticed this rash on his back yesterday.



Which of the following medications should be prescribed?

A	Flucloxacillin 500 mg qds
B	Aciclovir 800 mg 5 times/day
C	Topical aciclovir
D	Morphine sulphate tablets 30 mg bd
E	Prednisolone 30 mg od

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C	Topical aciclovir
D	Morphine sulphate tablets 30 mg bd
E	Prednisolone 30 mg od

Explanation

This gentleman has Herpes zoster infection affecting a thoracic dermatome. Herpes zoster occurs in people who have previously had chickenpox. The virus Herpes varicella-zoster lies dormant in the dorsal root ganglion following chicken pox, and later travels down the cutaneous nerves to infect the epidermal cells. The prodromal period is followed by a rash consisting of a group of vesicles on an erythematous background, followed by weeping and crusting; healing takes 3–4 weeks. The rash is nearly always unilateral and confined to one or two dermatomes. Oral antiviral agents such as aciclovir at a high dose are only beneficial if given in the first 48 h of the development of blisters. Regular analgesics are important, but in the elderly particularly if given as soon as the rash appears, prophylactic amitriptyline at night starting at 25 mg and increasing to 75 mg can help prevent post-herpetic neuralgia. Topical aciclovir is of no benefit at all.

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Responses Correct:	0
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Responses Total:	97
Responses - % Correct:	0%

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A 36-year-old man presented to the emergency department with the following rash, which appeared 3 days ago.



Which of the following is the most likely cause?

A	Crohn's disease
B	Mycoplasma
C	Orf
D	Tuberculosis
E	Alcohol

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Normal Values

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Which of the following is the most likely cause?

A	Crohn's disease
B	Mycoplasma
C	Orf
D	Tuberculosis
E	Alcohol

Explanation

This man has erythema multiforme. He shows the classical target lesions. These have three zones: a central area of dusky erythema, a middle paler zone of oedema and an outer erythematous ring. The lesions preferentially involve the extremities and trunk.
They usually appear in successive crops and fade in 1 to 2 weeks. There are multiple triggering factors although the cause is not determined in up to 50% of cases. The most common association is with preceding herpes simplex or mycoplasma infection, although drugs such as sulphonamides and penicillins are also frequently implicated. Orf is a less common aetiological trigger seen in farmers exposed to the virus.

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A 45-year-old gentleman has a long-standing rash. He thought it had cleared up, but it has recurred in a recent scar from minor surgery.

Which of the following conditions exhibits this phenomenon?

A	Eczema
B	Sarcoid
C	Lichen planus
D	Pemphigoid
E	Acne

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Normal Values

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A 45-year-old gentleman has a long-standing rash. He thought it had cleared up, but it has recurred in a recent scar from minor surgery.

Which of the following conditions exhibits this phenomenon?

A	Eczema
B	Sarcoid
C	Lichen planus
D	Pemphigoid
E	Acne

Explanation

The appearance of a rash in a scar or in the site of an injury is known as Koebner's phenomenon. The Koebner reaction usually appears around 7 to 14 days after the injury. Skin disorders that show this reaction include psoriasis, lichen planus and vitiligo. The Koebner response occurs in up to 20% of patients with psoriasis. The term pseudo Koebner is used for conditions such as molluscum contagiosum and viral warts where the phenomenon arises from the spread of an infective agent. The reverse Koebner also exists where trauma to a lesion results in it resolving.

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A 43-year-old man with a long-standing skin disorder presents as an emergency as his skin has become markedly erythematous and has spread to involve most of his body. He complains of feeling generally shivery and unwell.

The most likely underlying skin condition is:

A	Pemphigus
B	Pityriasis rubra pilaris
C	Psoriasis
D	Acne
E	Rosacea

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Normal Values

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The most likely underlying skin condition is:

A	Pemphigus
B	Pityriasis rubra pilaris
C	Psoriasis
D	Acne
E	Rosacea

Explanation

The answer is Psoriasis

Erythroderma is the term that applies to any inflammatory skin disease that affects more than 90% of the body surface. It is often accompanied with fever, shivering and malaise. Forty per cent of erythroderma is secondary to eczema and 25% secondary to psoriasis. These are the two most common conditions. Other precipitants include lymphoma, drugs and pityriasis rubra pilaris. Erythroderma is often associated with metabolic disturbances and patients may develop hypothermia or high-output cardiac failure. Treatment in hospital is advisable with careful monitoring of fluid balance and temperature. The condition may continue for months or years and may also relapse.

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A 22-year-old girl with severe nodulocystic acne has had multiple courses of antibiotics with no benefit. After discussion it is agreed to start her on isotretinoin (Roaccutane).

What investigation must she have prior to starting treatment?

A	Urea and electrolytes
B	Blood pressure
C	Full blood count
D	Beta-HCG
E	Antinuclear antibodies

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What investigation must she have prior to starting treatment?

A	Urea and electrolytes
B	Blood pressure
C	Full blood count
D	Beta-HCG
E	Antinuclear antibodies

Explanation

Isotretinoin is the most clinically effective treatment for acne, and frequently produces long-term remission. It significantly reduces elevated sebum production, comedogenesis and colonisation with Propionibacterium acnes. Isotretinoin should be prescribed for patients with moderate acne who are failing to respond to conventional therapy. It does however have many side-effects. In particular it is very teratogenic. A negative pregnancy test must be obtained prior to treatment, and counselling must be given regarding contraception. Liver function tests and lipids should also be checked in patients as these frequently become elevated with treatment. Patients generally complain of dryness of the mouth and lips, and should be advised to use regular moisturisers.

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Responses Total:	101
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This 24-year-old gentleman is distressed by his appearance and feels lethargic.



Which of the following is the most appropriate way to manage this patient?

A	Thyroid function tests
B	Oral ketoconazole
C	Oral antibiotics
D	Ketoconazole shampoo
E	Topical minoxidil

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Normal Values

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This 24-year-old gentleman is distressed by his appearance and feels lethargic.



Which of the following is the most appropriate way to manage this patient?

A	Thyroid function tests
B	Oral ketoconazole
C	Oral antibiotics
D	Ketoconazole shampoo
E	Topical minoxidil

Explanation

This is alopecia areata (AA) which is a condition of unknown aetiology associated with other autoimmune diseases, such as Hashimoto's thyroiditis (hence the importance of checking the TFTs), vitiligo and myasthenia gravis. There is no curative treatment currently available and, although systemic steroids do induce remission, the AA recurs on discontinuation and the risk of long-term therapy precludes its use. Patients find this condition very distressing, and although it often spontaneously remits, psychological support from family, doctor and support groups is extremely important. Differential diagnosis includes white-patch tinea capitis (for which anti-fungals are appropriate). Topical minoxidil may be helpful in male pattern baldness.

33395

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Responses Correct:	0
Responses Incorrect:	102
Responses Total:	102
Responses - % Correct:	0%

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This 60 year-old gentleman complains of a 2-day history of a painful right knee. He has previously complained of several episodes of excruciating pain in his left big toe. He has a past history of a recent peptic ulcer and hypertension for which he is taking omeprazole 40 mg and bendrofluazide 2.5 mg od.

Which of the following steps is most appropriate?

A	Serum urate levels
B	Allopurinol
C	Regular naproxen
D	Regular aspirin
E	Stop bendrofluazide

33396

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This 60 year-old gentleman complains of a 2-day history of a painful right knee. He has previously complained of several episodes of excruciating pain in his left big toe. He has a past history of a recent peptic ulcer and hypertension for which he is taking omeprazole 40 mg and bendrofluazide 2.5 mg od.

Which of the following steps is most appropriate?

A	Serum urate levels
B	Allopurinol
C	Regular naproxen
D	Regular aspirin
E	Stop bendrofluazide

Explanation

This picture shows obvious gouty tophi. Acute gout should be treated with a NSAID or colchicine if there is a contraindication to NSAIDs (e.g. as in this case peptic ulcer disease). Colchicine is associated with diarrhoea, but it would be considerably safer than a non-steroidal in this case. Synovial fluid microscopy for negatively bifringent crystals may be helpful – but the diagnosis in this case is clear. Allopurinol should not be commenced during an acute attack, and serum urate levels are not useful in an acute attack or for diagnosis (can be used to titrate allopurinol long-term therapy). Aspirin, diuretics and alcohol excess all precipitate attacks and should therefore be avoided if practical.

33396

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Session Progress

Responses Correct:	0
Responses Incorrect:	103
Responses Total:	103
Responses - % Correct:	0%

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This 27-year-old female patient presents with a malaise and arthralgia. She reports a history of weight loss and diarrhoea in the past few months.

What is the appropriate next step in her management?

A	Systemic steroids
B	Oral antibiotics
C	Intravenous antibiotics
D	Topical emollients
E	GI investigations

33397

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Normal Values

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This 27-year-old female patient presents with a malaise and arthralgia. She reports a history of weight loss and diarrhoea in the past few months.

What is the appropriate next step in her management?

A	Systemic steroids
B	Oral antibiotics
C	Intravenous antibiotics
D	Topical emollients
E	GI investigations

Explanation

This is erythema nodosum, the most common panniculitis, causing painful, tender lesions usually affecting the shins. Her symptoms are likely to respond to non-steroidals whilst investigations are carried out. Peak incidence 20–30 year of age, females: males 3–6:1. There are many causes: infections: bacterial (strep, TB), fungal, viral (infectious mononucleosis), drugs (OCP, penicillin, sulphonamides), malignancies (lymphoma), sarcoidosis, inflammatory bowel disease – Crohn's and ulcerative colitis – as suggested in this scenario. There is a rapid response to systemic steroids but these should only be given when diagnosis is known, and infection is excluded. Course depends on aetiology, lesions do not break down or ulcerate and they heal without scarring.

33397

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Session Progress

Responses Correct:	0
Responses Incorrect:	104
Responses Total:	104
Responses - % Correct:	0%

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A 19-year-old student has a palpable purpuric rash affecting the backs of his legs and buttocks. He describes a recent flu-type illness and generalised mild arthralgia.

What isthe appropriate next step in his management?

A	Lumbar puncture
B	Renal biopsy
C	Urine dipstick
D	Oral corticosteroids
E	Urethral swab

33399

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Normal Values

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A 19-year-old student has a palpable purpuric rash affecting the backs of his legs and buttocks. He describes a recent flu-type illness and generalised mild arthralgia.

What isthe appropriate next step in his management?

A	Lumbar puncture
B	Renal biopsy
C	Urine dipstick
D	Oral corticosteroids
E	Urethral swab

Explanation

This rash is typical of Henoch–Schönlein purpura. The Henoch–Schönlein syndrome includes polyarthralgia (but rarely true arthritis), bowel involvement (may present with abdominal pain in children) and renal involvement with nephrotic syndrome (focal crescentic glomerulonephritis). In adults, up to one quarter will develop rapidly progressive glomerulonephritis and nephritic syndrome will occur in half of these patients. More commonly, there is just glomerulonephritis with microscopic haematuria and without significant impairment of renal function. Urine dipstick is therefore the logical next step to confirm the presence of haematuria. Urethral swab is useful for Reiter's syndrome which usually presents with a mono-arthritis, the rash of keratoderma blenorrhagica and conjunctivitis.

33399

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Responses Correct:	0
Responses Incorrect:	105
Responses Total:	105
Responses - % Correct:	0%

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The patient shown below presented with a skin rash. His mother also suffers from a similar skin condition.

What is the probable diagnosis?



A	Eruptive xanthomas
B	Tuberous sclerosis
C	Neurofibromatosis type 1
D	Dercum's disease
E	Neurofibromatosis type 2

33400

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The patient shown below presented with a skin rash. His mother also suffers from a similar skin condition.

What is the probable diagnosis?



A	Eruptive xanthomas
B	Tuberous sclerosis
C	Neurofibromatosis type 1
D	Dercum's disease
E	Neurofibromatosis type 2

Explanation

The picture shows multiple cutaneous neurofibromata with a few café-au-lait spots.

Criteria for diagnosis of neurofibromatosis are:

- six or more café-au-lait spots
- two or more neurofibromas
- axillary freckling
- two or more Lisch nodules (iris hamartoma)
- optic glioma
- a parent or sibling with neurofibromatosis

associated abnormalities are:

- skeletal rib notching and other bony defects
- honeycomb lung
- intellectual disability
- kyphoscoliosis
- hypertension (renal artery stenosis, phaeochromocytoma)
- Lisch nodules (iris hamartoma).

33400

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Responses Correct:	0
Responses Incorrect:	106
Responses Total:	106
Responses - % Correct:	0%

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A 24-year-old woman was admitted with a flu-like illness which has worsened over the past 2 days and she now has a productive cough, shortness of breath and fever. A presumed diagnosis of community-acquired pneumonia was made and the patient started on oral co-amoxiclav 625 mg, three times a day.

Two days later she developed a non-pruritic macular rash over both legs and arms. There was a burning sensation associated with the lesions, described as pink-red blotches with a paler centre.

What is the most likely cause of the rash?

A	Pityriasis roseum
B	Erythema nodosum
C	Erythema multiforme
D	Urticaria
E	Stevens–Johnson syndrome

33401

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Normal Values

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What is the most likely cause of the rash?

A	Pityriasis roseum
B	Erythema nodosum
C	Erythema multiforme
D	Urticaria
E	Stevens–Johnson syndrome

Explanation

The patient has a symmetrical erythematous non-pruritic rash affecting the upper and lower limbs following a community-acquired pneumonia. The diagnosis is most likely erythema multiforme and the rash may be drug related or be as a consequence of infection with mycoplasma pneumonia.
Erythema multiforme (EM) is an acute mucocutaneous hypersensitivity reaction of variable severity characterised by a symmetrically distributed skin eruption, with or without mucous membrane lesions. The more common form, EM minor, consists of skin lesions with involvement of no more than one mucosal surface. EM major, or Stevens–Johnson syndrome, is more severe, involving two or more mucous membranes with more variable skin involvement. It may involve internal organs and typically is associated with systemic symptoms.
EM appears to involve a hypersensitivity reaction that can be triggered by a variety of stimuli, particularly bacterial, viral, or chemical products. Infectious agents are often the cause in children. Drugs are the major culprits in adults or in EM major. The most common bacterial precipitant is Mycoplasma pneumoniae. Approximately 50% of cases however are idiopathic, with no precipitating cause identified.

33401

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Session Progress

Responses Correct:	0
Responses Incorrect:	107
Responses Total:	107
Responses - % Correct:	0%

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A 60-year-old gentleman presented with a one-week history of painful mouth ulcers and blistering lesions over the face and upper body. He also complained of some associated hoarseness and general malaise.

On examination he had evidence of gingival erosions and bullae over the scalp and chest. They lesions were friable and some crusted lesions were apparent. Nikolsky sign was positive.

What is the most likely cause of the presentation?

A	Erythema multiforme
B	Bullous pemphigoid
C	Dermatitis herpetiformis
D	Pemphigus vulgaris
E	Bullous lichen planus

33402

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Normal Values

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A	Erythema multiforme
B	Bullous pemphigoid
C	Dermatitis herpetiformis
D	Pemphigus vulgaris
E	Bullous lichen planus

Explanation

Pemphigus refers to a group of autoimmune blistering diseases of the skin and mucous membranes. These include pemphigus vulgaris (PV), pemphigus foliaceus and paraneoplastic pemphigus.
PV is an autoimmune, intraepithelial, blistering disease affecting the skin and mucous membranes and is mediated by circulating autoantibodies directed against keratinocyte cell surfaces.
PV presents with oral lesions in the majority of patients and most patients develop cutaneous lesions. The primary lesion of PV is a flaccid blister.
The cause of PV remains unknown but there is a recognised association with the human leucocyte antigen DR4 (DRB1*0402) and human leucocyte antigen DRw6 (DQB1*0503) alleles. Patients are often diagnosed with other autoimmune diseases, particularly myasthenia gravis and thymoma.

Other differentials for intraepidermal blistering include:

- friction
- eczema – multilocular
- infection
- toxic epidermal necrolysis.

Causes of subepidermal blistering include:

- burns
- pemphigoid – characterised by tense, haemorrhagic, unilocular bullae which arise on abnormal(erythematous, urticated) skin. Mucosal involvement is uncommon. Nikolsky's sign is negative
- dermatitis herpetiformis – very itchy grouped vesicles, most frequent on the extensor surface of the knees, elbows, buttocks and shoulders.
- erythema multiforme – 'target' lesions, precipitated by viral infection or drugs
- insect bites
- porphyria cutanea tarda – light sensitivity, fragile, scarred skin and hypertrichosis, usually seen in middle-aged alcoholic men
- epidermolysis bullosa – many different inherited diseases, of varying severity
- Nikolsky's sign is positive when slight rubbing of the skin results in exfoliation of the outermost layer

33402

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Responses Correct:	0
Responses Incorrect:	108
Responses Total:	108
Responses - % Correct:	0%

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A 20-year-old man who has just returned from holiday in upstate New York has this rash which he describes as starting with a small red papule.

Given the suspected diagnosis, what is the correct treatment choice if he feels otherwise well?

A	Clotrimazole cream
B	Topical beclomethasone cream
C	Oral ketoconazole
D	Oral doxycycline
E	Intravenous benzylpenicillin

33403

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Normal Values

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A 20-year-old man who has just returned from holiday in upstate New York has this rash which he describes as starting with a small red papule.

Given the suspected diagnosis, what is the correct treatment choice if he feels otherwise well?

A	Clotrimazole cream
B	Topical beclomethasone cream
C	Oral ketoconazole
D	Oral doxycycline
E	Intravenous benzylpenicillin

Explanation

This is the rash of erythema chronicum migrans which starts as a small papule developing into a slowly enlarging ring with a raised border with central clearance. It is pathognomonic of Lyme disease, which is caused by the spirochaete Borrelia burgdorferi.
A single dose of 200 mg doxycycline is effective prophylaxis after a tick-bite if given within 72 hours. If not, 14–21days of treatment 100 mg bd is necessary. If the patient has any late complications (meningitis, cranial nerve palsies, heart block, arthropathy) then high dose IV benzyl penicillin or cefotaxime is warranted.
Clotrimazole and ketoconazole are both anti-fungal agents and would be appropriate treatment for Candida albicans infection.

33403

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Responses Correct:	0
Responses Incorrect:	109
Responses Total:	109
Responses - % Correct:	0%

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A 60-year-old smoker presented with a 2-week history of an intensely itchy rash over his arms, legs and trunk. He had noticed that he had started to go off his food and had lost half a stone in weight. He lived in the New Forest and had never been to a doctor before.

On examination a distinctive rash was noted over the legs and arms and trunk. It had a wood-grain appearance created by concentric mildly scaling bands of flat-to-raised erythema.

Given the presentation, what is the most likely diagnosis of the rash?

A	Granuloma annulare
B	Erythema chronicum migrans
C	Tinea corporis
D	Erythema gyratum repens
E	Erythema annulare centrifugum

33404

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Normal Values

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B	Erythema chronicum migrans
C	Tinea corporis
D	Erythema gyratum repens
E	Erythema annulare centrifugum

Explanation

Erythema gyratum repens (EGR) is believed to be a paraneoplastic process. Characteristic concentric erythematous bands forming a wood-grain appearance help distinguish EGR from other erythemas, such as erythema annulare centrifugum, erythema migrans, and erythema marginatum.
EGR is associated with malignancy in up to 80% of patients. Lung cancer is the most common association; the smoking history would obviously be a strong pointer to this. It is also associated with breast, bladder, cervical, stomach, and prostate cancer.
Most patients with EGR develop the eruption before the symptoms of underlying malignancy. The time interval for this may be up to 6 years.
EGR is associated with some non-malignant conditions, including pulmonary tuberculosis, systemic lupus erythematosus (SLE), CREST (calcinosis, Raynaud phenomenon, oesophageal motility disorder, sclerodactyly, and telangiectasia) syndrome, psoriasis, and as a drug reaction to azathioprine in a patient with type I autoimmune hepatitis.

33404

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Responses Correct:	0
Responses Incorrect:	110
Responses Total:	110
Responses - % Correct:	0%

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A 50-year-old man presented to the emergency department with a rapidly progressive brownish red rash over his shin associated with significant swelling and discomfort. Of note the patient had undergone a varicose vein operation 4 days beforehand.
On examination he was sweaty and anxious. He had a low-grade fever and a tachycardia of 130 beats/min, with a blood pressure of 120/80 mm Hg. There was an extensive brownish red discoloration over the whole shin and significant associated swelling. There was a crackly sensation when the swollen area was pressed with the fingers, and a pungent discharge from an open site at the distal end of the affected area.

What is the most important treatment option?

A	Hyperbaric oxygen
B	Surgical debridement
C	Intravenous penicillin
D	Tetanus toxoid
E	Intravenous immunoglobulin

33405

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Calculator

Normal Values

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© Pastest 2017

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What is the most important treatment option?

A	Hyperbaric oxygen
B	Surgical debridement
C	Intravenous penicillin
D	Tetanus toxoid
E	Intravenous immunoglobulin

Explanation

Gas gangrene is a medical emergency, it is caused in the vast majority of cases by Clostridium perfringens infection, and the clinical presentation fits best with this diagnosis. Rapid onset of muscle necrosis, gas production, and sepsis are the hallmarks of this disease. C perfringens is an exotoxin-producing clostridial species (large, Gram-positive, spore-forming bacillus), which is normally found in soil and the gastrointestinal tract.
The most common clinical presentation is with traumatic gas gangrene, which occurs through direct inoculation of contaminated ischaemic wounds.
Spontaneous gas gangrene is caused by haematogenous spread of toxin-producing bacteria (often in patients who are immunocompromised or those with diabetes).
Management clearly initially involves resuscitation, supplemental oxygen, and fluids to stabilise the patient. Surgical debridement is the definitive treatment.

33405

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Difficulty: Average

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Session Progress

Responses Correct:	0
Responses Incorrect:	111
Responses Total:	111
Responses - % Correct:	0%

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A 45-year-old woman complains of a 5-year history of intermittent watery, pale diarrhoea, with stool frequency 5–8 times a day. She has noted a stone in weight loss over the last months. Her BP is 112/80, with pulse 80 and regular. She is thin with a BMI of 20, and there are erythematous excoriated papules with herpetiform vesicles symmetrically distributed over extensor surfaces of the elbows and knees.

Investigations:

Hb	9.4 g/dl
WCC	11×10^9/l
PLT	440×10^9/l
MCV	85 fl
Vitamin B12	150 ng/l
Serum folate	4 µg/l
Ferritin	3 ng/ml
Bilirubin	10 µmol/l
ALP	175 IU/l
AST	14 IU/l
ALT	14 IU/l
Total protein	50 g/l
Albumin	25 g/l
Globulins	27 g/l
C-reactive protein	2 mg/l
Erythrocyte sedimentation rate	17 mm/1st hr
Urine dipstick	Trace protein

What is the most likely diagnosis for her skin rash?

A	Vitamin B_{12} deficiency
B	Herpes simplex
C	Dermatitis herpetiformis
D	Transient acantholytic dermatosis
E	Linear IgA dermatosis

33406

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Normal Values

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A 45-year-old woman complains of a 5-year history of intermittent watery, pale diarrhoea, with stool frequency 5–8 times a day. She has noted a stone in weight loss over the last months. Her BP is 112/80, with pulse 80 and regular. She is thin with a BMI of 20, and there are erythematous excoriated papules with herpetiform vesicles symmetrically distributed over extensor surfaces of the elbows and knees.

Investigations:

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WCC	11 × 10^9/l
PLT	440 × 10^9/l
MCV	85 fl
Vitamin B12	150 ng/l
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AST	14 IU/l
ALT	14 IU/l
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Albumin	25 g/l
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C-reactive protein	2 mg/l
Erythrocyte sedimentation rate	17 mm/1^{st} hr
Urine dipstick	Trace protein

What is the most likely diagnosis for her skin rash?

A	Vitamin B_{12} deficiency
B	Herpes simplex
C	Dermatitis herpetiformis
D	Transient acantholytic dermatosis
E	Linear IgA dermatosis

Explanation

C	Dermatitis herpetiformis

Dermatitis herpetiformis (DH) is an autoimmune blistering disorder associated with gluten-sensitive enteropathy (coeliac disease). It is characterised by grouped excoriations, erythematous, urticarial plaques and papules with vesicles. These are located on the extensor surfaces of the elbows, knees, buttocks and back. The lesions are extremely itchy and as a consequence the vesicles are often excoriated to erosions.
Diagnosis requires direct immunofluorescence of a skin biopsy specimen showing deposition of immunoglobulin A in a granular pattern in the upper papillary dermis. It is treated with dapsone and with maintenance of a gluten-free diet.

Coeliac disease is a chronic autoimmune disorder of the small intestine caused by gluten intolerance in genetically predisposed individuals. It is characterised by mucosal lesions of the small bowel that result in malabsorption. Less than 10% of patients with DH exhibit symptoms of an underlying gluten-sensitive enteropathy, although more than 90% of patients show abnormalities upon endoscopic examination.

A	Vitamin B_{12} deficiency

Skin manifestations of B_{12} deficiency include angular stomatitis, hyperpigmentation and hair changes.

B	Herpes simplex

Herpes simplex is associated with cold sores or genital ulceration depending upon which type of HSV is implicated in infection.

D	Transient acantholytic dermatosis

This occurs as a truncal rash characterised by acantholysis on histology, rather than the peripheral pattern of skin changes seen here.

E	Linear IgA dermatosis

Linear IgA dermatosis is a bullous disease, predominantly of the elderly, and doesn't fit with the age of this patient.

33406

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Session Progress

Responses Correct:	0
Responses Incorrect:	112
Responses Total:	112
Responses - % Correct:	0%

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A 55-year-old woman comes to the Emergency Department for review. She has cellulitis affecting her left lower leg and says that the area of redness has spread up her leg over the past 24 h. On examination she is pyrexial (38°C), her BP is 155/82 mmHg and pulse is 85/min and regular. There is erythema over the foot and to the mid-shin on the left leg, with popliteal and inguinal lymphadenopathy. Her BMI is 32.

Investigations:

Hb	12.9 g/dl
WCC	13.1 $x10^9$/l
PLT	207 $x10^9$/l
Na^+	137 mmol/l
K^+	4.2 mmol/l
Creatinine	102 micromol/l
Fasting glucose	4.9 mmol/l

Which of the following is the most appropriate antibiotic therapy?

A	Ciprofloxacin
B	Co-amoxiclav
C	Doxycycline
D	Erythromycin
E	Flucloxacillin

34148

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A 55-year-old woman comes to the Emergency Department for review. She has cellulitis affecting her left lower leg and says that the area of redness has spread up her leg over the past 24 h. On examination she is pyrexial (38°C), her BP is 155/82 mmHg and pulse is 85/min and regular. There is erythema over the foot and to the mid-shin on the left leg, with popliteal and inguinal lymphadenopathy. Her BMI is 32.

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Na^+	137 mmol/l
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A	Ciprofloxacin
B	Co-amoxiclav
C	Doxycycline
D	Erythromycin
E	Flucloxacillin

Explanation

E	Flucloxacillin

Guidelines recommend the use of flucloxacillin in the first instance for uncomplicated cellulitis, in this patient who is non-diabetic.

A	Ciprofloxacin

Ciprofloxacin is added if there is exposure to freshwater at the time of infection because of the risk of infection with organisms such as *Pseudomonas*.

B	Co-amoxiclav

Co-amoxiclav is the recommended first-line option in cellulitis related to bite injury because of activity against common oral bacteria, and is the default choice in many guidelines for the treatment of cellulitis against a background of diabetes mellitus.

C	Doxycycline

Doxycycline is considered an option for cellulitis where there is significant exposure to salt water.

D	Erythromycin

Macrolides such as erythromycin are the optimal intervention for patients with cellulitis who are allergic to flucloxacillin.

34148

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Difficulty: Very Easy

Peer Responses %

Session Progress

Responses Correct:	0
Responses Incorrect:	113
Responses Total:	113
Responses - % Correct:	0%

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A 39-year-old woman who has a history of sarcoid and is currently managed with a tapering dose of steroids, is worried about going to Spain on holiday because she feels that the spots at the sides of her nose may significantly worsen in the sun. The picture is shown below.



Which of the following is the most appropriate advice / intervention?

A	Add azathioprine
B	Increase the dose of systemic corticosteroids again
C	Local 5-FU cream
D	Sun block
E	Thalidomide

34149

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Calculator

Normal Values

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A 39-year-old woman who has a history of sarcoid and is currently managed with a tapering dose of steroids, is worried about going to Spain on holiday because she feels that the spots at the sides of her nose may significantly worsen in the sun. The picture is shown below.



Which of the following is the most appropriate advice / intervention?

A	Add azathioprine
B	Increase the dose of systemic corticosteroids again
C	Local 5-FU cream
D	Sun block
E	Thalidomide

Explanation

B Increase the dose of systemic corticosteroids again

The papules around the edges of both nostrils are consistent with lupus pernio, a recognised cutaneous manifestation of sarcoid which is associated with more severe disease. It responds poorly to topical agents, and therefore an increase in systemic therapy is the treatment of choice.

A Add azathioprine

Azathioprine is the default second-line agent in the event that the acute increase in corticosteroid dose fails to control symptoms.

C Local 5-FU cream

Topical agents such as 5-FU have little effect on symptoms of lupus pernio.

D Sun block

Although sun exposure worsens the rash of lupus pernio, avoidance of sun alone won't resolve the condition versus an increase in steroid dose.

E Thalidomide

Thalidomide is used as a third-line agent for patients who fail to respond to corticosteroids, and a conventional second-line agent such as azathioprine.

34149

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Session Progress

Responses Correct:	0
Responses Incorrect:	114
Responses Total:	114
Responses - % Correct:	0%

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A 53-year-old patient with a history of type 2 diabetes, cardiovascular disease and rosacea comes to the clinic because of a blistering skin rash on sun-exposed areas. He is not sure which of his medications may be responsible. On examination he has an erythematous blistering rash on his face, upper chest and both arms.

Which of the following medications is the most likely cause?

A	Amlodipine
B	Metformin
C	Oxytetracycline
D	Ramipril
E	Vildagliptin

36471

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Calculator

Normal Values

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A 53-year-old patient with a history of type 2 diabetes, cardiovascular disease and rosacea comes to the clinic because of a blistering skin rash on sun-exposed areas. He is not sure which of his medications may be responsible. On examination he has an erythematous blistering rash on his face, upper chest and both arms.

Which of the following medications is the most likely cause?

A	Amlodipine
B	Metformin
C	Oxytetracycline
D	Ramipril
E	Vildagliptin

Explanation

C	Oxytetracycline

A number of drugs are commonly implicated in photosensitive skin reactions, including:

- Antibiotics: tetracyclines, fluoroquinolones, sulphonamides
- NSAIDs
- Diuretics: e.g. furosemide, bumetanide
- Sulphonylureas
- Neuroleptics: e.g. chlorpromazine
- Antifungals: e.g. terbinafine, itraconazole
- Other drugs: e.g. amiodarone, diltiazem.

Where the causative agent cannot be discontinued, for example amiodarone, then the patient should be advised to stay out of the sun and wear an effective sun block. Topical corticosteroids are the treatment of choice for drug-induced skin reactions; systemic corticosteroids can be used in severe cases. Varying subtypes of skin reactions are seen; these include photo-allergic reactions, lichenoid reactions, lupus-like reactions and pseudo-porphyria.

A	Amlodipine

Amlodipine can result in alopecia and a purpuric rash, but isn't normally associated with a photosensitive rash.

B	Metformin

Erythema and urticarial rashes are very rarely reported in association with metformin therapy, and photosensitisation isn't a feature.

D	Ramipril

Ramipril is associated with photosensitivity, but it is listed as very rare on the datasheet (much less commonly than oxytetracycline).

E	Vildagliptin

Vildagliptin has been reported in post-marketing surveillance to be associated with urticaria and bullous skin reactions, rather than photosensitivity.

36471

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Session Progress

Responses Correct:	0
Responses Incorrect:	115
Responses Total:	115
Responses - % Correct:	0%

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A 25-year-old male lawyer attends the Emergency Department with a sudden onset rash. He claims he has been 'run down' recently with a sore mouth and throat and a cough. He is a smoker of 15 cigarettes/day. On examination he has several painful erosions on the inside of his lips, an engorged, erythematous throat and a diffuse wheeze. On his palms and forearms, he has several oedematous papules, some of which have small vesicles in their centre, forming a target lesion.

Which of the following is the most likely trigger for his condition?

A	EBV
B	HSV 1
C	Parvovirus B19
D	Influenza
E	Varicella-zoster virus

38301

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Calculator

Normal Values

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A 25-year-old male lawyer attends the Emergency Department with a sudden onset rash. He claims he has been 'run down' recently with a sore mouth and throat and a cough. He is a smoker of 15 cigarettes/day. On examination he has several painful erosions on the inside of his lips, an engorged, erythematous throat and a diffuse wheeze. On his palms and forearms, he has several oedematous papules, some of which have small vesicles in their centre, forming a target lesion.

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A	EBV
B	HSV 1
C	Parvovirus B19
D	Influenza
E	Varicella-zoster virus

Explanation

B	HSV 1

The targetoid rash described here is classic for erythema multiforme minor. The most common cause is HSV 1. EM minor is considered to be a type 4 hypersensitivity reaction to a viral or bacterial trigger.
A previous history of EM and male sex are also considered as risk factors. Other common causes are mycoplasma pneumonia, pneumococci, tuberculosis and *Mycobacterium avium* complex. EM minor is acute and self-limiting, but has a tendency to recur. It should be distinguished from EM major, or Stevens-Johnson syndrome, which is most commonly due to a drug cause and is more rapidly progressive and severe.

A	EBV

EBV is associated with pharyngitis and severe tonsillitis rather than the picture seen here.

C	Parvovirus B19

Parvovirus B19 is associated with coryzal symptoms and an erythematous facial rash, which leads to its description as 'slapped cheek' disease.

D	Influenza

Influenza may be associated with upper respiratory tract symptoms but isn't associated with the vesicles and erosions seen here.

E	Varicella-zoster virus

Chicken pox is associated with a widespread vesicular rash, and shingles with a rash confined to a particular dermatome, neither of which fits with the picture seen here.

38301

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Session Progress

Responses Correct:	0
Responses Incorrect:	116
Responses Total:	116
Responses - % Correct:	0%

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A young female patient with psoriasis attends your clinic. She has tried multiple creams and has had several courses of UVB therapy. During the consultation, she is tearful and frustrated, stating the psoriasis is 'taking over her life' and ruining her social life and self-esteem. She is reluctant to consider systemic therapies that would weaken her immune system. You feel that acitretin may be a good option for her and ask her about her desire to have children. She states that, although she is currently in a relationship, she has no plans to start a family.

How long would she have to avoid pregnancy after taking acitretin?

A	Week
B	Weeks
C	Month
D	Months
E	Years

38302

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Previous Question | Skip Question

Calculator

Normal Values

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A young female patient with psoriasis attends your clinic. She has tried multiple creams and has had several courses of UVB therapy. During the consultation, she is tearful and frustrated, stating the psoriasis is 'taking over her life' and ruining her social life and self-esteem. She is reluctant to consider systemic therapies that would weaken her immune system. You feel that acitretin may be a good option for her and ask her about her desire to have children. She states that, although she is currently in a relationship, she has no plans to start a family.

How long would she have to avoid pregnancy after taking acitretin?

A	Week
B	Weeks
C	Month
D	Months
E	Years

Explanation

E	Years

Manufacturer's guidelines state that the time required to avoid pregnancy with acitretin is 3 years. The prescribing information states that pregnancy must be reliably prevented 4 weeks before, during and for 3 years after the completion of therapy. Advice on contraception is also given to males starting therapy who are sexually active. Isotretinoin and alitretinoin must be discontinued at least 1 month before pregnancy.

A	Week

For any medication with potential effects on pregnancy, contraceptive precautions must be continued for at least one cycle. As such, 1 week is considered too short.

B	Weeks

Two weeks is less than the duration of a single menstrual cycle and is therefore inappropriate advice with respect to avoidance of conception for any medication which may impact on successful pregnancy.

C	Month

One month is the length of a single menstrual cycle; like 1 week and 2 weeks, 1 month is therefore considered too short a period of avoidance of conception.

D	Months

Six months is the recommended period of pregnancy avoidance after methotrexate therapy.

38302

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Session Progress

Responses Correct:	0
Responses Incorrect:	117
Responses Total:	117
Responses - % Correct:	0%

External Links

Special warnings and precautions for use
medicines.org.uk/emc/medicine/28609#CLINICAL_PRECAUTIONS

© Pastest 2017

A 25-year-old female patient attends your surgery with severe nodular-cystic acne. She has tried multiple courses of antibiotics, and topical solutions and has read about Roaccutane (isotretinoin) on the Internet. She is concerned about the side effects and wishes to discuss them with you.

Which of the following would you warn her about?

A	Hair loss is commonly seen in association with therapy
B	LDL cholesterol is commonly increased
C	Low mood is commonly seen in association with therapy
D	She must control her weight because benign intracranial hypertension is commonly seen
E	Patients taking the drug very commonly become anaemic

38303

Submit

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Calculator

Normal Values

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D	She must control her weight because benign intracranial hypertension is commonly seen
E	Patients taking the drug very commonly become anaemic

Explanation

E	Patients taking the drug very commonly become anaemic

Thrombocytopenia, anaemia, thrombocytosis and an increase in ESR are commonly associated with isotretinoin therapy.

A	Hair loss is commonly seen in association with therapy

Alopecia is seen in association with isotretinoin treatment, but thankfully it is rarely seen.

B	LDL cholesterol is commonly increased

An insulin-resistant picture of lipid abnormalities is seen in patients taking isotretinoin, with an increase in triglycerides and a decrease in HDL cholesterol.

C	Low mood is commonly seen in association with therapy

Low mood is seen in association with isotretinoin, as is frank depression, but thankfully these are rarely associated with treatment.

D	She must control her weight because benign intracranial hypertension is commonly seen

BIH, decreased consciousness and seizures are reported in association with isotretinoin, but these are very rare occurrences.

38303

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Session Progress

Responses Correct:	0
Responses Incorrect:	118
Responses Total:	118
Responses - % Correct:	0%

External Links

Undesirable effects
medicines.org.uk/emc/medicine/1727#UNDESIRABLE_EFFECTS

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A 56-year-old lady presents to the dermatology clinic with a small (0.6 cm), poorly defined pearly nodule with overlying arborizing telangiectasia located in the medial canthus, 5 mm from her left lower eyelid. She is otherwise fit and well.

What would be the most favourable treatment option for avoiding recurrence and achieving the best cosmetic outcome?

A	Excision with 5mm margin and flap repair
B	Moh's micrographic surgery
C	Radiotherapy
D	Curette and cautery
E	Treatment with Vismodegib

38304

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Previous Question | Skip Question

Calculator

Normal Values

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B	Moh's micrographic surgery
C	Radiotherapy
D	Curette and cautery
E	Treatment with Vismodegib

Explanation

B Moh's micrographic surgery

The clinical scenario describes a typical basal cell carcinoma (BCC). All of the above are treatment options for BCCs.

The indication for Moh's surgery are as follows:

- Recurrent or incompletely excised BCC
- Primary BCC with indistinct borders
- Lesions located in or near high-risk areas such as eyelids, nose, ear, nasolabial folds
- Cosmetic and functionally important areas, e.g. head and neck
- Aggressive clinical evolution or histological subtype.

A Excision with 5mm margin and flap repair

Although this is an acceptable intervention for BCC, it risks the possibility of a poor cosmetic result.

C Radiotherapy

Radiotherapy may be undertaken in patients who do not wish, or are too frail, to have surgery.

D Curette and cautery

Curette and cautery is an option for small nodular or superficial lesions.

E Treatment with Vismodegib

Vismodegib is a cyclopamine-competitive antagonist of the smoothened receptor (SMO), which is part of the hedgehog signalling pathway. It is indicated in metastatic BCCs (rare), those that have relapsed after surgery and those not amenable to surgery or radiotherapy treatment.

38304

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Responses Correct:	0
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Responses Total:	119
Responses - % Correct:	0%

External Links

Erivedge 150 mg hard capsules
medicines.org.uk/emc/medicine/28107

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A 45-year-old man with severe psoriasis which is refractory to treatment with topical steroids is commenced on ciclosporin therapy. He attends the Emergency Department with a lower respiratory tract infection.

Which of the following antibiotics should be avoided with respect to his treatment?

A	Cephalexin
B	Ciprofloxacin
C	Clarithromycin
D	Co-amoxiclav
E	Doxycycline

38305

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Previous Question | Skip Question

Calculator

Normal Values

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A 45-year-old man with severe psoriasis which is refractory to treatment with topical steroids is commenced on ciclosporin therapy. He attends the Emergency Department with a lower respiratory tract infection.

Which of the following antibiotics should be avoided with respect to his treatment?

A	Cephalexin
B	Ciprofloxacin
C	Clarithromycin
D	Co-amoxiclav
E	Doxycycline

Explanation

C	Clarithromycin

Macrolide antibiotics can significantly increase ciclosporin concentration and may drive nephrotoxicity in some cases because of inhibition of CYP3A4. Erythromycin can increase ciclosporin exposure 4- to 7-fold, sometimes resulting in nephrotoxicity. Clarithromycin has been reported to double the exposure of ciclosporin. Azitromycin increases ciclosporin levels by around 20%.

A	Cephalexin

Cephalexin is renally excreted and has no interaction with the CYP3A4 enzyme system.

B	Ciprofloxacin

Ciprofloxacin is a weak inhibitor of CYP-1A2, which doesn't interfere with ciclosporin metabolism.

D	Co-amoxiclav

Co-amoxiclav is a penicillin and is therefore not metabolised via the P450 system.

E	Doxycycline

Doxycycline is excreted primarily in bile but does not interfere with drugs metabolised by the CYP 3A4 enzyme system.

38305

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Difficulty: Average

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Session Progress

Responses Correct:	0
Responses Incorrect:	120
Responses Total:	120
Responses - % Correct:	0%

External Links

Neoral Soft Gelatin Capsules
medicines.org.uk/emc/medicine/1307

© Pastest 2017

A 59-year-old man with severe psoriasis treated with corticosteroids and methotrexate comes to the clinic for review. He is developing worsening arthritis of his hands, and inflammatory markers are persistently elevated. He has tested negative for hepatitis B and a screen for tuberculosis has proved negative. He is still concerned about long-term risks of infection.

Which of the following on therapy risks would you warn him of?

A	Glucose intolerance is a recognised long-term side effect of treatment
B	He is at high risk of developing progressive multifocal leukoencephalopathy
C	He is at high risk of developing rheumatoid arthritis
D	Symptoms of demyelination are uncommonly seen
E	Interstitial lung disease is rarely seen with long-term therapy

38306

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Calculator

Normal Values

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A 59-year-old man with severe psoriasis treated with corticosteroids and methotrexate comes to the clinic for review. He is developing worsening arthritis of his hands, and inflammatory markers are persistently elevated. He has tested negative for hepatitis B and a screen for tuberculosis has proved negative. He is still concerned about long-term risks of infection.

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C	He is at high risk of developing rheumatoid arthritis
D	Symptoms of demyelination are uncommonly seen
E	Interstitial lung disease is rarely seen with long-term therapy

Explanation

E	Interstitial lung disease is rarely seen with long-term therapy

As well as concerns about tuberculosis, interstitial lung disease (including rapidly progressive disease, lung fibrosis and pneumonitis) is rarely seen in association with infliximab treatment.

A	Glucose intolerance is a recognised long-term side effect of treatment

Anti-TNF agents were trialled in an attempt to modulate immune-driven insulin resistance. Unfortunately these agents showed no positive effect on glucose tolerance, but they showed no positive effects on glucose control either.

B	He is at high risk of developing progressive multifocal leukoencephalopathy

Anti-T-cell agents carry the greatest risk of development of PML. They are most commonly used in the treatment of multiple sclerosis.

C	He is at high risk of developing rheumatoid arthritis

Anti-TNF agents are of course used as treatments for rheumatoid arthritis.

D	Symptoms of demyelination are uncommonly seen

A number of rare sequelae of anti-TNF therapy are seen, including transverse myelitis, central nervous system demyelinating disorders (multiple sclerosis-like disease and optic neuritis) and peripheral demyelinating disorders (such as Guillain-Barré syndrome, chronic inflammatory demyelinating polyneuropathy and multifocal motor neuropathy).

38306

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Session Progress

Responses Correct:	0
Responses Incorrect:	121
Responses Total:	121
Responses - % Correct:	0%

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A 24-year-old woman comes to the dermatology clinic for review. She has an intensely itchy rash with vesicles and blisters, which she says waxes and wanes from week to week. She has suffered from irritable bowel syndrome symptoms in the past and anti-TTG antibodies are positive. Despite following a gluten-free diet and being prescribed dapsone, she is still suffering from the rash.

Which of the following is the most appropriate next step?

A	Oral azathioprine
B	Oral methotrexate
C	Oral prednisolone
D	Topical high-potency steroids
E	Oral sulfapyridine

38307

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Calculator

Normal Values

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A 24-year-old woman comes to the dermatology clinic for review. She has an intensely itchy rash with vesicles and blisters, which she says waxes and wanes from week to week. She has suffered from irritable bowel syndrome symptoms in the past and anti-TTG antibodies are positive. Despite following a gluten-free diet and being prescribed dapsone, she is still suffering from the rash.

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B	Oral methotrexate
C	Oral prednisolone
D	Topical high-potency steroids
E	Oral sulfapyridine

Explanation

E	Oral sulfapyridine

Although following a gluten-free diet ±dapsone does improve the rash of dermatitis herpetiformis significantly in many patients, some still suffer resistant symptoms. In those adult patients, ulfapyridine may be given at a starting dose of 0.5 g three times per day, which may be increased to up to 6 g per day if necessary to control patient symptoms. Risks of therapy include agranulocytosis and hypersensitivity.

A	Oral azathioprine

Although some patients gain a response to azathioprine, it is less effective vs dapsone and sulfa-based compounds.

B	Oral methotrexate

Methotrexate isn't used for the treatment of dermatitis herpetiformis; in rare cases it is recognised to cause a coeliac disease-like syndrome with a dermatitis herpetiformis-type rash.

C	Oral prednisolone

Oral steroids should be avoided in the treatment of dermatitis herpetiformis if possible because of the benefit risk profile associated with systemic therapy.

D	Topical high-potency steroids

Topical high-potency steroids are an alternative to sulfapyridine, but given the often extensive nature of the rash, cumulative systemic absorption of steroids may be quite high.

38307

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Session Progress

Responses Correct:	0
Responses Incorrect:	122
Responses Total:	122
Responses - % Correct:	0%

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A 50-year-old female attends the surgery with a long history of recurrent red marks on her torso. These slowly expand by 2-3 mm per day into annular shapes that clear centrally, and then fade over days to weeks, leaving normal skin. Some of the lesions have fine scaling in their inner erythematous rim. They can reach a maximum of 10 cm in diameter. They have a seasonal preponderance, appearing every summer. She is otherwise well.

Which one of the following is the most likely diagnosis?

A	Erythema marginatum
B	Erythema migrans
C	Erythema induratum
D	Erythema annulare centrifugum
E	Eryhthema gyratum repens

38308

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Previous Question | Skip Question

Calculator

Normal Values

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A 50-year-old female attends the surgery with a long history of recurrent red marks on her torso. These slowly expand by 2-3 mm per day into annular shapes that clear centrally, and then fade over days to weeks, leaving normal skin. Some of the lesions have fine scaling in their inner erythematous rim. They can reach a maximum of 10 cm in diameter. They have a seasonal preponderance, appearing every summer. She is otherwise well.

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A	Erythema marginatum
B	Erythema migrans
C	Erythema induratum
D	Erythema annulare centrifugum
E	Eryhthema gyratum repens

Explanation

D	Erythema annulare centrifugum

EAC is an idiopathic, chronic, recurrent erythema, which is often seasonal. Triggers can be drugs or infections. Topical steroids usually cause involution of the treated lesions, but they do not prevent the occurrence of new lesions or recurrence of lesions at the original site.

A	Erythema marginatum

Erythema marginatum is characterised by macules that spread into patches associated with acute rheumatic fever (fever, carditis, migratory polyarthritis) caused by group A beta-haemolytic streptococcal infection.

B	Erythema migrans

Erythema migrans develops 7 days after a tick bite and is a sign of Lyme disease. Lesions range from 10-50 cm in diameter and flu-like symptoms are common. Lyme serology is a key investigation when this is identified.

C	Erythema induratum

Erythema induratum of Bazin is a nodular vasculitis (tender erythematous, indurated nodules and plaques), especially on the lower legs, associated with *Mycobacterium tuberculosis*. Further investigations including chest X-ray and sputum culture are recommended when this is identified.

E	Eryhthema gyratum repens

Erythema gyratum repens is a paraneoplastic skin rash consisting of urticated, wavy erythematous bands like ‘grains of wood’ most often associated with carcinoma of the lung. These expand quickly at a rate of up to 1 cm/day.

38308

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Session Progress

Responses Correct:	0
Responses Incorrect:	123
Responses Total:	123
Responses - % Correct:	0%

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A 54-year-old man comes to the dermatology clinic for review; he has suffered from an increasingly troublesome rash over the past few months. He has a symmetrical, erythematous scaly rash affecting the fingers, hands, feet, his nose and the helices of the ears. There is also nail dystrophy with horizontal and vertical ridging. On further questioning he admits to problems with indigestion and food sticking, that he puts down to drinking too much whisky and smoking 10 cigarettes per day.

Which of the following is he most likely to have?

A	Gastric carcinoma
B	Nasopharyngeal carcinoma
C	Small cell lung cancer
D	Squamous cell lung cancer
E	Squamous cell oesophageal carcinoma

38309

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Previous Question | Skip Question

Calculator

Normal Values

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A 54-year-old man comes to the dermatology clinic for review; he has suffered from an increasingly troublesome rash over the past few months. He has a symmetrical, erythematous scaly rash affecting the fingers, hands, feet, his nose and the helices of the ears. There is also nail dystrophy with horizontal and vertical ridging. On further questioning he admits to problems with indigestion and food sticking, that he puts down to drinking too much whisky and smoking 10 cigarettes per day.

Which of the following is he most likely to have?

A	Gastric carcinoma
B	Nasopharyngeal carcinoma
C	Small cell lung cancer
D	Squamous cell lung cancer
E	Squamous cell oesophageal carcinoma

Explanation

E	Squamous cell oesophageal carcinoma

A widespread psoriatic-type rash involving the ears is suggestive of acrokeratosis paraneoplastica. Most acrokeratosis paraneoplastica cases are associated with squamous cell carcinoma of the upper one third of the respiratory or GI tract, i.e. the oropharynx, larynx, lungs or oesophagus. The symptoms of indigestion and food sticking fit best with a diagnosis of oesophageal carcinoma.

A	Gastric carcinoma

Acrokeratosis paraneoplastica is not usually associated with gastric carcinoma. Gastric carcinoma is associated with acanthosis nigricans.

B	Nasopharyngeal carcinoma

Nasopharyngeal carcinoma is primarily associated with symptoms of upper airway/nasal obstruction rather than symptoms of food sticking.

C	Small cell lung cancer

SIADH is the main paraneoplastic phenomenon associated with small cell lung cancer.

D	Squamous cell lung cancer

Squamous cell lung cancer is associated with acrokeratosis paraneoplastica, but the food sticking fits better with a primary oesophageal tumour.

38309

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Session Progress

Responses Correct:	0
Responses Incorrect:	124
Responses Total:	124
Responses - % Correct:	0%

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A 78-year-old man presents to the dermatology clinic with an erythematous rash which has gradually increased in severity over the past 7 months. The rash forms concentric erythematous bands, very much like the wood grains you would see on a tree. He has a chronic cough thought to be related to previous cigarette smoking, although he gave up some 30 years earlier, and has had an operation for an inguinal hernia some 5 years earlier.

Which of the following is the most likely underlying malignancy?

A	Gastric carcinoma
B	Oesophageal carcinoma
C	Pancreatic carcinoma
D	Small cell lung cancer
E	Squamous cell carcinoma of the bronchus

38310

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Calculator

Normal Values

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A 78-year-old man presents to the dermatology clinic with an erythematous rash which has gradually increased in severity over the past 7 months. The rash forms concentric erythematous bands, very much like the wood grains you would see on a tree. He has a chronic cough thought to be related to previous cigarette smoking, although he gave up some 30 years earlier, and has had an operation for an inguinal hernia some 5 years earlier.

Which of the following is the most likely underlying malignancy?

A	Gastric carcinoma
B	Oesophageal carcinoma
C	Pancreatic carcinoma
D	Small cell lung cancer
E	Squamous cell carcinoma of the bronchus

Explanation

E	Squamous cell carcinoma of the bronchus

This rare skin condition is erythema gyratum repens, which is most often seen in association with squamous cell carcinoma of the bronchus. It may also be seen in association with oesophageal and breast cancer, although the difficulty with a cough is a stronger pointer towards lung cancer.

A	Gastric carcinoma

Gastric cancer is associated with acanthosis nigricans.

B	Oesophageal carcinoma

Although oesophageal carcinoma is associated with erythema gyratum repens, it is less likely here given the absence of symptoms of indigestion.

C	Pancreatic carcinoma

Pancreatic carcinoma is associated with thrombophlebitis migrans.

D	Small cell lung cancer

Skin rashes are not a usual phenomenon associated with small cell lung cancer.

38310

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Session Progress

Responses Correct:	0
Responses Incorrect:	125
Responses Total:	125
Responses - % Correct:	0%

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A 65-year-old lady, with multiple medical problems including ischaemic heart disease, chronic renal failure, treated hypothyroidism, SLE and a 60 pack/year smoking history, presents with exquisitely painful, necrotic ulcers on her abdomen, thighs and shins. She says that these ulcers usually begin as areas of blue/black discoloured skin before they break down. A diagnosis of calciphylaxis is confirmed.

Which of the following is the most important risk factor for development of her calciphylaxis?

A	Venous insufficiency
B	Chronic renal failure
C	Smoking
D	Hypoparathyroidism
E	Systemic lupus erythematosus (SLE)

38311

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A 65-year-old lady, with multiple medical problems including ischaemic heart disease, chronic renal failure, treated hypothyroidism, SLE and a 60 pack/year smoking history, presents with exquisitely painful, necrotic ulcers on her abdomen, thighs and shins. She says that these ulcers usually begin as areas of blue/black discoloured skin before they break down. A diagnosis of calciphylaxis is confirmed.

Which of the following is the most important risk factor for development of her calciphylaxis?

A	Venous insufficiency
B	Chronic renal failure
C	Smoking
D	Hypoparathyroidism
E	Systemic lupus erythematosus (SLE)

Explanation

B	Chronic renal failure

Calciphylaxis is a life-threatening condition most often seen in late-stage chronic renal failure on dialysis. Calcium deposits in the cutaneous arteries lead to thrombosis and ischaemic necrosis, with refractory ulcers often in the lower extremities, abdomen or buttocks.

A	Venous insufficiency

Venous insufficiency is most strongly associated with varicose eczema and ulceration over the medial malleolus.

C	Smoking

Although smoking increases the risk of necrotic ulcer formation, it isn't the primary cause of calciphylaxis.

D	Hypoparathyroidism

Hypothyroidism may be associated with hair loss and skin oedema, but isn't associated with ulceration.

E	Systemic lupus erythematosus (SLE)

Although SLE is associated with skin ulceration, with respect to calciphylaxis it is renal failure that is the most important predisposing factor.

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An 18-year-old man comes to the dermatology clinic having recently returned from a charity visit to a northern Thai beach resort. He has a very itchy 'creeping' eruption on the soles of both his feet. On examination he has linear tracks on the feet, some of which have secondary blistering, crusting and bacterial infection. A diagnosis of cutaneous larva migrans is made.

Which of the following is most likely to harbour the infection?

A	Dog
B	Fish
C	Sand fly
D	Red ant
E	Turkey

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Which of the following is most likely to harbour the infection?

A	Dog
B	Fish
C	Sand fly
D	Red ant
E	Turkey

Explanation

A	Dog

Cutaneous larva migrans is a parasitic skin infection caused by hookworm that usually infect domestic animals such as dogs, cats and sometimes cattle. In the animal host, the larvae penetrate the skin and reach the blood. They mature in the intestine and lay eggs, which are excreted in the faeces. The larvae are found in beaches and moist soils contaminated with animal faeces. Albendazole and ivermectin are potential interventions.

B	Fish

Fish tapeworm leads to intestinal infection from uncooked freshwater fish, and is a potential problem with respect to eating sushi.

C	Sand fly

Sand fly bites lead to the development cutaneous leishmaniasis, rather than cutaneous larva migrans.

D	Red ant

Allergic dermatitis may be rarely seen in patients bitten by red ants, although it doesn't lead to the development of cutaneous larva migrans.

E	Turkey

Turkeys suffer from caecal worms, which carry the protozoan parasite *Histomonas*; this leads to death in the turkeys, but isn't a cause of human disease.

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A 25-year-old female patient attends your clinic for review. She has attended the Emergency Department on three occasions, having suffered episodes of angioedema, on two occasions after sexual intercourse and on one occasion after having a filling at the dentist. She denies any fever or rash, although there was some associated shortness of breath. Examination in the clinic is entirely normal.

Which of the following is the most likely cause?

A	Type 1 hypersensitivity to latex
B	Type 4 hypersensitivity to latex
C	C1 esterase inhibitor deficiency
D	Chronic idiopathic
E	Contact allergic dermatitis

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B	Type 4 hypersensitivity to latex
C	C1 esterase inhibitor deficiency
D	Chronic idiopathic
E	Contact allergic dermatitis

Explanation

C	C1 esterase inhibitor deficiency

C1 esterase inhibitor deficiency is an inherited or acquired cause of recurrent angio-oedema, without urticaria, often triggered by trauma to mucous membranes, such as sexual intercourse or dental work. It will not respond to adrenaline and should instead be treated with a C1 esterase inhibitor.

A	Type 1 hypersensitivity to latex

Type 1 hypersensitivity reactions are more likely to result in shortness of breath and to cause significant itching and urticaria.

B	Type 4 hypersensitivity to latex

Type 4 hypersensitivity reactions are delayed and lead to a contact dermatitis-type skin rash.

D	Chronic idiopathic

The absence of a skin rash rules out chronic idiopathic urticaria, which can be managed with the use of regular antihistamines.

E	Contact allergic dermatitis

Here again, the absence of skin rash rules out contact allergic dermatitis, considered a type 4 hypersensitivity reaction.

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A 55-year-old lady complains of painful, sore, erythematous, weeping skin over the right nipple and areola. She has used a potent topical steroid for 2 weeks with no improvement. On examination of both breasts and axillae, there were no lumps and the left nipple was normal. She said she recently changed her body wash and thinks it may be an allergic reaction.

What is the most appropriate management step?

A	Reassure her that this is contact dermatitis and she should stop using the body wash
B	Prescribe a soap substitute and review in 6 weeks
C	Take a swab for microbiology and prescribe flucloxacillin
D	Refer for skin biopsy
E	Refer for patch testing

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Normal Values

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C	Take a swab for microbiology and prescribe flucloxacillin
D	Refer for skin biopsy
E	Refer for patch testing

Explanation

D	Refer for skin biopsy

A weepy, unilateral erythematous eruption affecting one nipple should raise the suspicion of Paget's disease, i.e. direct extension of a mammary intraductal adenocarcinoma into the nipple or areola. For this reason, skin biopsy to rule out an underlying carcinoma is essential.

A	Reassure her that this is contact dermatitis and she should stop using the body wash

Unilateral nipple symptoms do not support contact dermatitis as the underlying diagnosis.

B	Prescribe a soap substitute and review in 6 weeks

This risks a significant delay in treating an underlying carcinoma.

C	Take a swab for microbiology and prescribe flucloxacillin

The subacute presentation is unlikely to represent an acute bacterial infection, and prescribing antibiotics, like prescribing a soap substitute, risks delay in treating an underlying carcinoma.

E	Refer for patch testing

Patch testing is ideal for evaluating a possible type IV hypersensitivity reaction, where bilateral changes would be expected.

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A 69-year-old male with non-Hodgkin's lymphoma, currently in remission, was admitted with pneumonia. He was given tazocin IV. Two days later he developed an erythematous maculo-papular rash all over his body. The next day a student nurse fast bleeps you to the ward as she noticed that his skin was 'falling off' as she was turning him over. You arrive to see him in a puddle of fluid, with sheets of skin loss and other areas of dusky skin necrosis. His conjunctivae are red and his mouth has multiple blisters.

What is the most likely underlying pathophysiology of this mucocutaneous drug reaction?

A	Cytotoxic IgG or IgM antibodies
B	Drug-antibody immune complex
C	T cell mediated delayed hypersensitivity
D	Cytotoxic T cells and apoptosis
E	IgE-mediated reaction involving release of histamine from mast cells

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Calculator

Normal Values

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C	T cell mediated delayed hypersensitivity
D	Cytotoxic T cells and apoptosis
E	IgE-mediated reaction involving release of histamine from mast cells

Explanation

D Cytotoxic T cells and apoptosis

The description is of classic toxic epidermal necrolysis (TEN), which is mediated by an early cytotoxic T-cell response followed by Fas ligand binding to Fas (death receptors) on keratinocytes, which trigger apoptosis.

A Cytotoxic IgG or IgM antibodies

These lead to a type 2 hypersensitivity reaction such as thrombocytopaenic purpura.

B Drug-antibody immune complex

Drug-antibody immune complexes lead to a type 3 hypersensitivity reaction such as serum sickness.

C T cell mediated delayed hypersensitivity

T-cell-mediated delayed hypersensitivity is a so-called type 4 hypersensitivity reaction, the prime example of which is contact dermatitis.

E IgE-mediated reaction involving release of histamine from mast cells

This leads to a type 1 hypersensitivity reaction and an anaphylaxis-type reaction.

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A 25-year-old lady, currently breast-feeding, is prescribed prednisolone for a particularly severe flare of her eczema.

Which of the following is the correct advice with respect to her breast feeding?

A	Prednisolone is not excreted in breast milk so there is no concern
B	The infant should always be monitored for signs of adrenal suppression
C	Doses of less than 40 mg prednisolone per day are likely to be safe
D	She must not breast-feed
E	Prednisolone must be restricted to doses of less than 20 mg per day

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C	Doses of less than 40 mg prednisolone per day are likely to be safe
D	She must not breast-feed
E	Prednisolone must be restricted to doses of less than 20 mg per day

Explanation

C	Doses of less than 40 mg prednisolone per day are likely to be safe

The BNF states that doses of up to 40 mg daily are unlikely to cause systemic effects in the infants of breast-feeding mothers, but infants of mothers taking daily doses higher than 40 mg should be monitored for signs of steroid withdrawal.

A	Prednisolone is not excreted in breast milk so there is no concern

Doses above 40 mg per day may be secreted in significant quantities in breast milk, and caution therefore with respect to high dose corticosteroids is advised.

B	The infant should always be monitored for signs of adrenal suppression

Infants should be monitored for signs of steroid withdrawal in the event that doses above 40 mg per day are used.

D	She must not breast-feed

Breast feeding is only of significant concern when doses of prednisolone greater than 40 mg per day, hence breast feeding may well be safe for the majority of patients taking prednisolone.

E	Prednisolone must be restricted to doses of less than 20 mg per day

Doses of up to 40 mg per day are unlikely to cause a significant problem with respect to breast-feeding.

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An 18-year-old man from a travelling family presents to the dermatology clinic for review. He has a number of yellowish papules in the axilla and groin and over the lateral part of the neck. He has been told by a friend that it looks like chicken skin. He tells you he feels chronically tired, and a haemoglobin checked by his GP is 99 with a microcytic picture. Ophthalmological examination shows angioid streaks and maculopathy. A skin biopsy confirmed the presence of calcification of dermal elastic fibres.

Which of the following diagnoses is most likely?

A	Psedoxanthoma elasticum
B	Marfan syndrome
C	Ehlers-Danlos syndrome
D	Familial hypercholesterolaemia
E	Homocystinuria

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B	Marfan syndrome
C	Ehlers-Danlos syndrome
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E	Homocystinuria

Explanation

A Psedoxanthoma elasticum

Pseudoxanthoma elasticum (PXE) is a rare, inherited disorder in which elastic fibres become fragmented and calcified.

Patients with the following three diagnostic criteria definitely have PXE:

- Characteristic skin signs (yellow papules in flexural areas)
- Characteristic skin histology fragmentation, clumping and calcification of dermal elastic fibres
- Ophthalmic features (angioid streaks, mottled peau d'orange retinal pigmentation, maculopathy).

B Marfan syndrome

Marfan syndrome skin changes include striae, particularly affecting the thoracolumbar and sacral region, rather than the plucked skin appearance seen here. It is also associated with the Marfan body habitus and recurrent joint and lens dislocation.

C Ehlers-Danlos syndrome

Characteristic features of Ehlers-Danlos include bruising, bleeding from the gastrointestinal tract, dissecting thoracic aortic aneurysm, widening of scars related to surgery and injury, laxity of joints, hernias and skin hyperelasticity.

D Familial hypercholesterolaemia

Familial hypercholesterolaemia is associated with corneal arcus and tendon xanthomata, rather than the skin appearance seen here.

E Homocystinuria

Homocystinuria is associated with similar features to Marfan, including lens dislocation and joint dislocation, although parents often suffer from a degree of learning difficulty.

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A 61-year-old lady with end-stage renal failure presents with a 6-week history of progressive, painful tightening of the skin leading to disabling joint contractures. She denies having any difficulty swallowing, but admits to progressively worsening shortness of breath since the onset of her symptoms. She also complains of severe bone pain. She had a contrast-enhanced MRI 2 months earlier to rule out a slipped disc. On examination, she has symmetrically distributed, indurated, woody plaques on the trunk and lower limbs. Her face, neck and nails are normal.

Which one of the following is the most likely diagnosis?

A	Systemic sclerosis
B	Plaque morphoea
C	Scleromyxoedema
D	Pre-tibia myxoedema
E	Nephrogenic systemic fibrosis

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E	Nephrogenic systemic fibrosis

Explanation

E	Nephrogenic systemic fibrosis

Nephrogenic systemic fibrosis is a devastating cutaneous dermopathy seen in patients with end-stage renal failure, andwho have been exposed to gadolinium-based contrast agents seen in MRI. Metformin may also be a potential trigger, although the exact pathophysiological mechanism for the condition is unknown. Complications include pulmonary fibrosis, cardiomyopathy and pulmonary hypertension.

A	Systemic sclerosis

In systemic sclerosis a more prolonged course of symptoms would be expected, with other features such as Raynaud's, telangiectasia and nail changes not seen here.

B	Plaque morphoea

Morphea is usually asymptomatic, with asymmetrical areas of cutaneous fibrosis consistent with scleroderma developing over a period of many months, without the proximity, as here to gadolinium contrast material.

C	Scleromyxoedema

Scleromyxoedema is a rare progressive cutaneous mucinosis associated with progressive deposition of mucin within connective tissue, and often a paraproteinaemia.

D	Pre-tibia myxoedema

Pre-tibial myxoedema is confined to the shins and is associated with oedema and fibrosis, and with thyroid dysfunction.

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You are asked to consult on a patient who is on the Care of the Elderly Ward by a colleague. She has been identified as having zinc deficiency.

Which of the following would you expect to find?

A	Beau's lines
B	Bruising
C	Follicular hyperkeratosis
D	Pellagra
E	Pallor

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Calculator

Normal Values

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You are asked to consult on a patient who is on the Care of the Elderly Ward by a colleague. She has been identified as having zinc deficiency.

Which of the following would you expect to find?

A	Beau's lines
B	Bruising
C	Follicular hyperkeratosis
D	Pellagra
E	Pallor

Explanation

A	Beau's lines

Zinc deficiency causes dermatitis, alopecia and diarrhoea, as well as failure to thrive in infants; this clinical tableau is otherwise known as acrodermatitis enteropathica. It also causes nail dystrophy with Beau's lines (deep, grooved lines that run from side to side on the fingernails).

B	Bruising

Bruising and petechiae are commonly seen in vitamin K deficiency.

C	Follicular hyperkeratosis

Follicular hyperkeratosis is seen in vitamin C and E deficiency.

D	Pellagra

Pellagra (dermatitis, diarrhoea and dementia) are features seen in vitamin B3 deficiency.

E	Pallor

Pallor is seen related to anaemia, causes of which include iron deficiency, B12 deficiency and folate deficiency.

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A 47-year-old man presents with a lesion on his 4th finger, present for three years. It has grown slowly, is not painful and occasionally discharges a jelly-like sticky fluid, sometimes tinged with blood.



What is the most likely diagnosis?

A	Squamous cell carcinoma
B	Myxoid cyst
C	Baker's cyst
D	Merkel cell carcinoma
E	Acral melanoma

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Normal Values

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A	Squamous cell carcinoma
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C	Baker's cyst
D	Merkel cell carcinoma
E	Acral melanoma

Explanation

B	Myxoid cyst

Digital mucous (myxoid) cysts arise from degeneration of the connective tissue. They may connect with the joint at the end of the finger. They may be found at the base of the nail, or within a centimetre of this. They can cause a nail groove (but not in this case).

A	Squamous cell carcinoma

Over the course of 3 years, growth of squamous cell carcinoma would be expected, with increasing size of the lesion accompanied by central necrosis.

C	Baker's cyst

Baker's cysts occur in the popliteal fossa and are related to osteoarthritic degeneration of the knee.

D	Merkel cell carcinoma

Merkel cell carcinomas are rare, aggressive skin cancers often appearing on the face, head or neck, as flesh-coloured or blue/red nodules.

E	Acral melanoma

Acral melanoma occurs on non-hair-bearing surfaces of the body such as the palms, soles, under nails and the oral mucosa. It is the most common melanoma type diagnosed in Asian and sub-Saharan ethnic groups.

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A 29-year-old lady presented with itchy, pigmented macules on her trunk and limbs, for the last 5 years. She says they become particularly itchy and red when they are rubbed and when she has a bath or exercises. She denies any wheezing, flushing, diarrhoea, abdominal pain or any other systemic symptoms. She has no significant past medical history.



Which of the following is the most likely diagnosis?

A	Vasculitis
B	Systemic mastocytosis
C	Urticaria pigmentosa
D	Carcinoid syndrome
E	Leukaemia cutis

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Calculator

Normal Values

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Which of the following is the most likely diagnosis?

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B	Systemic mastocytosis
C	Urticaria pigmentosa
D	Carcinoid syndrome
E	Leukaemia cutis

Explanation

C	Urticaria pigmentosa

Urticaria pigmentosa (UP) or cutaneous mastocytosis is part of a group of conditions called 'mastocytosis', in which mast cells proliferate and accumulate in the skin and other organs. UP is a localised form of mastocytosis confined to the skin. It manifests in brown, freckle-like macules that urticate (become erythematous and raised) if rubbed.

A	Vasculitis

Vasculitis is limited to the skin only, and without progression over the course of 5 years to involve other organs such as the kidneys would be very unusual.

B	Systemic mastocytosis

In systemic mastocytosis, mast cells disseminate widely in the skin and there may be systemic symptoms of mast cell release including wheezing, flushing, diarrhoea, hypotension, syncope, dyspnoea and anaphylaxis. Serum tryptase may be raised.

D	Carcinoid syndrome

Carcinoid syndrome may cause episodic facial flushing eventually leading to persistent facial erythema and telangiectasia.

E	Leukaemia cutis

Leukaemia cutis would normally present with more pronounced, raised lesions (papules/nodules or plaques) and one would expect symptoms and signs of bone marrow failure.

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A 26-year-old lady, currently in the second trimester of pregnancy, presented with a lesion on her right thumb. This started 5 weeks ago and has grown rapidly. She remembers getting her thumb caught on a rose bush in the garden. The lesion is not particularly painful, but is a nuisance as it gets caught on clothes and bleeds profusely.



What is the likely diagnosis?

A	Pyoderma gangrenosum
B	Pyogenic granuloma
C	Squamous cell carcinoma
D	Keloid scar
E	Viral wart

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Calculator

Normal Values

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What is the likely diagnosis?

A	Pyoderma gangrenosum
B	Pyogenic granuloma
C	Squamous cell carcinoma
D	Keloid scar
E	Viral wart

Explanation

B Pyogenic granuloma

Pyogenic granuloma (PG) is a benign vascular skin tumour that commonly presents at the site of a penetrating injury. Pregnancy is a risk factor. There is a history of rapid growth on previously normal skin. A history of a 'mole' at the site, where the lesion arose should alert the clinician to the possibility of alternative diagnoses such as amelanotic malignant melanoma, is common. Commonly used options for treatment include curettage with cautery and cryotherapy.

A Pyoderma gangrenosum

Pyoderma gangrenosum is a condition associated with the development of painful, ulcerated, necrotic lesions, seen on the legs and around surgical wounds.

C Squamous cell carcinoma

Squamous cell carcinoma (SCC) is rarer and very unlikely to present in a young woman with type 6 skin (Fitzpatrick scale).

Fitzpatrick skin type classification:

Skin Type	Typical Features	Tanning Ability
1	Pale white skin, blue/hazel eyes, blonde/red hair	Always burns, does not tan
2	Fair skin, blue eyes	Burns easily, tans poorly
3	Darker white skin	Tans after initial burn
4	Light brown skin	Burns minimally, tans easily
5	Brown skin	Rarely burns, tans darkly easily
6	Dark brown or black skin	Never burns, always tans darkly

D Keloid scar

Keloid scars don't protrude and a significant increase in size wouldn't be expected so long after the initial insult.

E Viral wart

The degree of protuberance seen here would be unusual for a viral wart, as would the speed of growth seen here over only 5 weeks.

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An 18-year-old man presents with a 7-day history of rash, affecting his whole body. He had a cold sore, a sore throat and fever 10 days ago and was given erythromycin by the GP. The rash is not particularly itchy and there are no mucosal lesions. Routine bloods reveal a small increase in ESR and a white blood count just above the upper limit of the normal range.

The rash is seen below:



Which of the following is the most likely diagnosis?

A	Scabies
B	Secondary syphilis
C	Varicella zoster virus
D	Erythema multiforme
E	Hand, foot and mouth disease

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Calculator

Normal Values

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E	Hand, foot and mouth disease

Explanation

D Erythema multiforme

Erythema multiforme is an acute, self-limiting illness triggered by infections including HSV and CMV. Less than 10% of cases are triggered by drugs. It causes erythematous macules, papules and target lesions on the palms and soles.

Clinical criteria for diagnosis:
1) Acute, self-limiting illness with duration <4weeks
2) Symmetrical, discrete, round, red papules that persist at the same site for at least 7 days
3) Some papules evolve into target lesions
4) No mucosal involvement (or mucosal involvement is limited to one mucosal surface, usually oral).

A Scabies

Scabies is associated with an intensely itchy, crusting skin rash, particularly in the web spaces on the hands.

B Secondary syphilis

Although the rash of secondary syphilis can mimic almost any rash, it's much more likely with modern sexual health counselling that an 18-year-old would have presented to health services at the time of the primary lesion.

C Varicella zoster virus

VZV is a vesicular rash (vesicles on an erythematous base), classically described as 'dew drops on a rose petal'. It's most likely that primary chicken pox infection would also have occurred at an earlier stage in life than age 18.

E Hand, foot and mouth disease

Hand, foot and mouth disease is associated with infection by coxsackie viruses A10 and A16 and with enterovirus 71, and produces vesicles and pustules on the hands and feet and mucosal ulcers. Enterovirus is also rarely associated with a polio-like syndrome.

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A 35-year-old man presented with red plaques on his legs. His GP had prescribed betamethasone and calcipotriol ointment. He has no past medical history of note apart from two episodes of previous depression, but admits to drinking 10 pints of beer per week and smokes 10 cigarettes per day. The topical treatment gave limited benefit. He is willing to take systemic therapy, but doesn't want to use oral corticosteroids. Examination reveals the lesions shown below, nail changes on both hands and painful DIP joints.



Which of the following is the most appropriate intervention?

A	Methotrexate
B	Acitretin
C	Adalimumab
D	Dithranol
E	Infliximab

38523

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Normal Values

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A 35-year-old man presented with red plaques on his legs. His GP had prescribed betamethasone and calcipotriol ointment. He has no past medical history of note apart from two episodes of previous depression, but admits to drinking 10 pints of beer per week and smokes 10 cigarettes per day. The topical treatment gave limited benefit. He is willing to take systemic therapy, but doesn't want to use oral corticosteroids. Examination reveals the lesions shown below, nail changes on both hands and painful DIP joints.



Which of the following is the most appropriate intervention?

A	Methotrexate
B	Acitretin
C	Adalimumab
D	Dithranol
E	Infliximab

Explanation

A	Methotrexate

This gentleman has chronic plaque psoriasis, and has partially responded to topical steroid and vitamin D analogue treatment. With extensive changes including early possible psoriatic arthritis, methotrexate is the most appropriate next step.

B	Acitretin

Acitretin is an appropriate intervention for psoriasis but is potentially not the optimal choice here given the past history of depression.

C	Adalimumab

Adalimumab is a biological option where patients fail to respond adequately to methotrexate.

D	Dithranol

Topical dithranol is an option for the lesions on the lower limbs, but won't impact on the early features of psoriatic arthritis in the hands.

E	Infliximab

Like adalimumab, infliximab is a biological option for patients who fail to respond to methotrexate or other traditional DMARDs.

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Responses Correct:	0
Responses Incorrect:	139
Responses Total:	139
Responses - % Correct:	0%

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A 56-year-old lady presented with a 3-month history of itching in the groin region. Her GP had prescribed topical steroids for presumed ‘eczema’. This has not been of any benefit. The rash is shown below.



What is the most likely diagnosis?

A	Tinea incognito
B	*Pthirus pubis*
C	*Pediculus humanus humanus*
D	*Malassezia furfur*
E	*Candida albicans*

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Calculator

Normal Values

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A 56-year-old lady presented with a 3-month history of itching in the groin region. Her GP had prescribed topical steroids for presumed 'eczema'. This has not been of any benefit. The rash is shown below.



What is the most likely diagnosis?

A	Tinea incognito
B	*Pthirus pubis*
C	*Pediculus humanus humanus*
D	*Malassezia furfur*
E	*Candida albicans*

Explanation

A	Tinea incognito

Tinea is an infection with a dermatophyte fungus. Tinea incognito is the name given to tinea when the clinical appearance has been altered by inappropriate treatment, usually a steroid cream. Compared with untreated tinea corporis, tinea incognito has a less raised margin, is less scaly and more pustular. Treatment with a topical anti-fungal and loose-fitting cotton underwear is likely to resolve the problem.

B	*Pthirus pubis*

Pubic crabs produce itching and the bites result in wheals and erythematous or bluish macules.

C	*Pediculus humanus humanus*

This is the body louse, where the lice themselves or their eggs (nits) may be visible.

D	*Malassezia furfur*

This is the yeast infection thought to be responsible for seborrheic dermatitis and pityriasis versicolor, presenting with a rash on the face or the trunk most commonly.

E	*Candida albicans*

Candida albicans is more likely to present as an erythematous moist rash with evidence of adherent white discharge. Vulval candidiasis is more likely to be seen than the skin fold/perineal infection seen here.

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Responses Total:	140
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A 50-year-old gentleman presented with bilateral itchy legs, which he has found increasingly difficult to manage over the past 2-3 months. He has a background of renal failure, secondary to type 2 diabetes mellitus, and is undergoing haemodialysis.



Which of the following is most likely?

A	Xerosis
B	Lipodermatosclerosis
C	Lichen simplex chronicus
D	Pre-tibial myxoedema
E	Scurvy

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Calculator

Normal Values

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A 50-year-old gentleman presented with bilateral itchy legs, which he has found increasingly difficult to manage over the past 2-3 months. He has a background of renal failure, secondary to type 2 diabetes mellitus, and is undergoing haemodialysis.



Which of the following is most likely?

A	Xerosis
B	Lipodermatosclerosis
C	Lichen simplex chronicus
D	Pre-tibial myxoedema
E	Scurvy

Explanation

A	Xerosis

'Xerosis' simply means dry skin and is a common complication of uraemia secondary to chronic renal failure and dialysis. Uraemic patients commonly suffer from pruritus.

B	Lipodermatosclerosis

Lipodermatosclerosis is often associated with pain and causes tapering of the skin above the ankles, forming a constricting band resembling an inverted champagne bottle. There may be redness, induration and pigmentation.

C	Lichen simplex chronicus

Lichen simplex chronicus (neurodermatitis) is caused by idiopathic scratching, and commonly occurs in anxious or depressed patients. It looks like distinct patches of thick, brown leathery skin.

D	Pre-tibial myxoedema

Pre-tibial myxoedema, or Graves' dermopathy, is an infiltrative dermopathy resulting in a peau d'orange appearance and non-pitting oedema.

E	Scurvy

Scurvy results in purpura or ecchymoses (bruises) and corkscrew hairs rather than the picture of dry scaling skin seen here.

38525

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You are asked to review a 70-year-old gentleman on haemodialysis for tubular-interstitial nephritis. He has had a failed renal transplant. Six months ago, he had an MRI for back pain. He presents with a 3-month history of 'woody' skin around the abdomen and distal limbs. His umbilicus has become inverted and smaller. He denies having any difficulty swallowing, shortness of breath or other systemic symptoms. On palpation of his skin it had lost its elasticity and was hard.



What is the most likely diagnosis?

A	Plaque morphoea
B	Systemic sclerosis
C	Intra-abdominal carcinomatosis
D	Pre-tibial myxoedema
E	Nephrogenic systemic sclerosis

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Calculator

Normal Values

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You are asked to review a 70-year-old gentleman on haemodialysis for tubular-interstitial nephritis. He has had a failed renal transplant. Six months ago, he had an MRI for back pain. He presents with a 3-month history of 'woody' skin around the abdomen and distal limbs. His umbilicus has become inverted and smaller. He denies having any difficulty swallowing, shortness of breath or other systemic symptoms. On palpation of his skin it had lost its elasticity and was hard.



What is the most likely diagnosis?

A	Plaque morphoea
B	Systemic sclerosis
C	Intra-abdominal carcinomatosis
D	Pre-tibial myxoedema
E	Nephrogenic systemic sclerosis

Explanation

E	Nephrogenic systemic sclerosis

Nephrogenic systemic sclerosis is a devastating cutaneous dermopathy, seen in patients with end-stage renal failure who have been exposed to gadolinium-based contrast agents seen in MRI. The skin becomes wood-like and hard.

A	Plaque morphoea

Plaque morphoea is asymmetrical and involves the skin only, and usually doesn't progress as rapidly as the picture seen here.

B	Systemic sclerosis

In systemic sclerosis, nail changes, calcinosis of the fingers and telangiectasia would be expected.

C	Intra-abdominal carcinomatosis

Intra-abdominal carcinomatosis would be associated with the progressive development of ascites and abdominal distension.

D	Pre-tibial myxoedema

Pre-tibial myxoedema is characterised by infiltration of the skin over the shins, and is associated with positive thyroid antibodies and Graves' disease.

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Responses Correct:	0
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A 55-year-old man of Chinese ethnic origin presents with a discoloration on his back which has been present for 3 years. It is intensely itchy. He has no significant past medical history, apart from mild hypertension.



What is the most likely diagnosis?

A	Malignant melanoma
B	Lichen amyloidosis
C	Lichen sclerosis
D	Lichen simplex chronicus
E	Erythema ab igne

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Calculator

Normal Values

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What is the most likely diagnosis?

A	Malignant melanoma
B	Lichen amyloidosis
C	Lichen sclerosis
D	Lichen simplex chronicus
E	Erythema ab igne

Explanation

B	Lichen amyloidosis

Lichen amyloidosis is a primary, localised cutaneous amyloidosis (amyloid deposition in the skin). It results in intensely itchy shiny or hyperkeratotic, pigmented macules and occurs most commonly in South East Asia. It appears that itching drives further amyloid deposition, and treatments are therefore directed at reducing the sensation of itching - for example, with the use of antihistamines and intra-lesional/topical corticosteroids.

A	Malignant melanoma

Melanoma is a discrete lesion, rather than a diffuse pigmentation as seen here. A primary melanoma would also be less likely to occur on the lower back as it is less likely to be a sun-exposed area.

C	Lichen sclerosis

Lichen sclerosis results in whitening, thinning and atrophy of the skin, rather than the thickening seen here.

D	Lichen simplex chronicus

Lichen simplex chronicus (neurodermatitis) commonly occurs in areas where the patient is easily able to scratch (such as the shins) and thereby perpetuate the itch/scratch cycle.

E	Erythema ab igne

Erythema ab igne would require a history of back pain/hot water bottle use and is a reticulate dermatosis.

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A 45-year-old gentleman presented with flat pigmented patches over his flanks and gums. He has been treated over the past few months for a pustular rash around his nose.



Which of the following drugs is most likely to be responsible?

A	Minocycline
B	Erythromycin
C	Prednisolone
D	Co-trimoxazole
E	Flucloxacillin

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Calculator

Normal Values

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A 45-year-old gentleman presented with flat pigmented patches over his flanks and gums. He has been treated over the past few months for a pustular rash around his nose.



Which of the following drugs is most likely to be responsible?

A	Minocycline
B	Erythromycin
C	Prednisolone
D	Co-trimoxazole
E	Flucloxacillin

Explanation

A	Minocycline

Increased skin pigmentation with blue/black or grey discoloration is rarely seen in patients taking minocycline for a prolonged period. The facial rash may well be rosacea, for which tetracyclines are a standard treatment modality.

B	Erythromycin

Erythromycin may be associated with skin eruptions, itching and urticaria, not with skin pigmentation.

C	Prednisolone

Prednisolone use over a chronic period is associated with weight gain and skin thinning, rather than the hyperpigmentation seen here.

D	Co-trimoxazole

Co-trimoxazole is associated with skin rashes and photosensitivity, rather than the hyperpigmentation seen here.

E	Flucloxacillin

Flucloxacillin is associated with non-specific skin rashes, urticarial and purpura, rather than the blue/black/grey discoloration seen here.

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A 60-year-old lady presented with a sudden onset, widespread, erythematous rash, covering 95% of her body.





Which of the following best describes this pattern of rash?

A	Icthyosis
B	Erythroderma
C	Pustular
D	Urticarial
E	Follicular

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Calculator

Normal Values

© Pastest 2017

A 60-year-old lady presented with a sudden onset, widespread, erythematous rash, covering 95% of her body.





Which of the following best describes this pattern of rash?

A	Icthyosis
B	Erythroderma
C	Pustular
D	Urticarial
E	Follicular

Explanation

B Erythroderma

The diagnosis here is exfoliative rash. Erythroderma refers to an erythematous, (red) scaly/exfoliative dermatitis, involving 90% or more of the skin surface. This may develop suddenly. Addressing temperature regulation and fluid balance is essential. Causes of erythroderma include eczema, especially atopic or seborrhoeic, psoriasis, drug eruption and cutaneous T-cell lymphoma.

A Icthyosis

Icthyosis is associated with widespread, dry, skin thickening with fish scale-like skin.

C Pustular

Pustular rashes consist of multiple bullae or vesicles containing purulent material.

D Urticarial

Urticaria is associated with erythematous welts and wheals, rather than the contiguous rash seen here.

E Follicular

Folliculitis is characterised by inflammation or infection of hair follicles, rather than the generalised inflammation seen in this patient.

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A 60-year-old lady develops a sudden onset, widespread, erythematous rash, covering 95% of her body after commencing a course of IV vancomycin for an MRSA positive lesion on her hand following IV cannulation. The rash is shown below.





Emollients are initiated and the vancomycin is discontinued.

Which of the following is the most appropriate additional intervention?

A	Infliximab
B	Topical corticosteroids
C	Oral cyclosporine
D	Oral prednisolone
E	Vorinostat

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Calculator

Normal Values

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A 60-year-old lady develops a sudden onset, widespread, erythematous rash, covering 95% of her body after commencing a course of IV vancomycin for an MRSA positive lesion on her hand following IV cannulation. The rash is shown below.





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Which of the following is the most appropriate additional intervention?

A	Infliximab
B	Topical corticosteroids
C	Oral cyclosporine
D	Oral prednisolone
E	Vorinostat

Explanation

B Topical corticosteroids

This patient has generalised exfoliative dermatitis, or 'red man syndrome', which is well known to be associated with vancomycin prescription. Potent topical steroids combined with emollient dressings are the initial intervention of choice, coupled with careful attention to maintenance of fluid balance.

A Infliximab

Infliximab is primarily an intervention for the treatment of severe psoriasis, rather than for exfoliative dermatitis.

C Oral cyclosporine

Cyclosporine can be used to treat both severe eczema and psoriasis not responsive to other interventions.

D Oral prednisolone

Given the extent of tissue inflammation in erythroderma, topical steroids are actually very effective and are therefore preferred.

E Vorinostat

Vorinostat is an intervention for cutaneous T-cell lymphoma, which is also associated with erythroderma.

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A 60-year-old lady presented with a sudden-onset, widespread, erythematous rash, covering 95% of her body. The rash was precipitated by a course of IV vancomycin which has now been discontinued.





What would you now expect to happen to this rash?

A	Ulceration
B	Desquamation followed by post-inflammatory pigmentation
C	Lichenification
D	Complete resolution to normal skin within 3 weeks
E	Induration and fibrosis

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Calculator

Normal Values

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A 60-year-old lady presented with a sudden-onset, widespread, erythematous rash, covering 95% of her body. The rash was precipitated by a course of IV vancomycin which has now been discontinued.





What would you now expect to happen to this rash?

A	Ulceration
B	Desquamation followed by post-inflammatory pigmentation
C	Lichenification
D	Complete resolution to normal skin within 3 weeks
E	Induration and fibrosis

Explanation

B	Desquamation followed by post-inflammatory pigmentation

The diagnosis here is exfoliative dermatitis. The erythematous skin begins to desquamate around days 2-6, and this is followed by pigmentation (similar to tanning after sunburn). The pigmentary change (usually hyper- but can be hypo-) can be permanent, or may resolve after a few months.

A	Ulceration

Ulceration is seen in Stevens-Johnson syndrome as it progresses, which doesn't fit with the presentation seen here.

C	Lichenification

Lichenification is a manifestation of chronic pruritic skin disorders driven by recurrent scratching and epidermal hypertrophy, not with the acute erythroderma seen here.

D	Complete resolution to normal skin within 3 weeks

Pigmentary changes seen after exfoliative dermatitis usually takes a few months to completely resolve.

E	Induration and fibrosis

Induration and fibrosis is seen primarily in fibrotic skin diseases such as systemic sclerosis.

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Responses Correct:	0
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A 45-year-old man presented with a 3 month history of an exquisitely painful ulcer on his right shin. This started after an insect bite and rapidly developed into an ulcer. He has a background of inflammatory bowel disease. The other leg was entirely normal.



Which of the following is the most likely diagnosis?

A	Venous ulcer
B	Arterial ulcer
C	Neuropathic ulcer
D	Pyoderma gangrenosum
E	Leishmaniasis

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Calculator

Normal Values

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Which of the following is the most likely diagnosis?

A	Venous ulcer
B	Arterial ulcer
C	Neuropathic ulcer
D	Pyoderma gangrenosum
E	Leishmaniasis

Explanation

D	Pyoderma gangrenosum

The clues are in the history. Pyoderma gangrenosum usually starts suddenly, often at the site of a minor injury (known as the Koebner phenomenon). The skin rapidly breaks down into a very painful, purple, undermined ulcer. It can affect any part of the skin, but the lower legs are a common site. The name pyoderma (infection) gangrenosum (gangrene) is misleading as it is neither an infection nor gangrene. It is associated with a range of underlying systemic illnesses, including IBD (Crohn's/ulcerative colitis), rheumatoid arthritis, myeloid blood dyscrasias and Wegener's granulomatosis.

A	Venous ulcer

Venous ulcers tend to occur as a result of chronic venous stasis, are associated with varicose eczema and are most commonly seen over the medial malleolus.

B	Arterial ulcer

Arterial ulcers are most commonly seen on the lateral surface of the ankle and the toes, rather than the position seen over the shin.

C	Neuropathic ulcer

Neuropathic ulcers are seen over points of pressure that may not be detected due to abnormal sensation, such as on the soles of the feet.

E	Leishmaniasis

There is no history of potential exposure to leishmaniasis, but ulcers are potentially seen on the shins because these are areas accessible to sand flies.

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Responses Correct:	0
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A 45-year-old man presented with a 3 month history of an exquisitely painful ulcer on his right shin. This started after an insect bite and rapidly developed into an ulcer. He has a background of inflammatory bowel disease. The other leg was entirely normal.



Which inflammatory cells are most likely to be seen in the ulcer on histological analysis?

A	Neutrophils
B	Lymphocytes
C	Eosinophils
D	Red blood cells
E	Basophils

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Normal Values

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A 45-year-old man presented with a 3 month history of an exquisitely painful ulcer on his right shin. This started after an insect bite and rapidly developed into an ulcer. He has a background of inflammatory bowel disease. The other leg was entirely normal.



Which inflammatory cells are most likely to be seen in the ulcer on histological analysis?

A	Neutrophils
B	Lymphocytes
C	Eosinophils
D	Red blood cells
E	Basophils

Explanation

A	Neutrophils

The diagnosis is pyoderma gangrenosum, which is a neutrophilic dermatosis. Pyoderma gangrenosum is a type of 'neutrophilic dermatosis'. These are conditions characterised by dense infiltrate of neutrophils in the affected tissue. They often arise as a reaction to an underlying systemic illness. They may arise at the site of injury, e.g. insect bite or needle prick. Other examples of neutrophilic dermatoses include Sweet syndrome, neutrophilic eccrine hidradenitis and erythema elevatum diutinum. Pyoderma gangrenosum is seen with increasing frequency in patients with inflammatory bowel disease.

B	Lymphocytes

Lymphocytic infiltration occurs in a number of other inflammatory dermatoses, including psoriasis and atopic dermatitis.

C	Eosinophils

Eosinophils are seen across a range of inflammatory skin diseases, including allergic drug eruptions, urticaria, allergic contact dermatitis, atopic dermatitis and eczema.

D	Red blood cells

Haematoma formation with bleeding isn't a primary feature of pyoderma gangrenosum, and red cells are unlikely to be a prominent feature of a biopsy taken from round the edge of a lesion.

E	Basophils

Basophils are not a prominent feature of biopsy in inflammatory skin diseases.

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A 45-year-old man presented with a 3 month history of an exquisitely painful ulcer on his right shin. This started after an insect bite and rapidly developed into an ulcer. He has a background of inflammatory bowel disease. The other leg was entirely normal.



Which of the following initial treatments is most appropriate?

A	Topical tacrolimus
B	High-dose oral prednisolone
C	Oral cyclosporine
D	Infliximab
E	Silver nitrate dressing

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Calculator

Normal Values

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A 45-year-old man presented with a 3 month history of an exquisitely painful ulcer on his right shin. This started after an insect bite and rapidly developed into an ulcer. He has a background of inflammatory bowel disease. The other leg was entirely normal.



Which of the following initial treatments is most appropriate?

A	Topical tacrolimus
B	High-dose oral prednisolone
C	Oral cyclosporine
D	Infliximab
E	Silver nitrate dressing

Explanation

A Topical tacrolimus

Topical calcineurin inhibitors such as tacrolimus result in resolution of limited pyoderma gangrenosum (PG) in up to 50% of patients. It is therefore an appropriate first option for therapy of PG.

B High-dose oral prednisolone

Systemic corticosteroids are an option for patients with more extensive disease, at daily doses between 0.5 and 1.5 mg/kg. The risk benefit profile of systemic corticosteroids means that topical therapies are the usual preferred initial option.

C Oral cyclosporine

Systemic cyclosporine is used as an adjunct to oral corticosteroids in patients who fail to gain an adequate response to therapy.

D Infliximab

Infliximab is an effective biological option for patients who fail to respond to systemic corticosteroids and a conventional DMARD such as cyclosporine.

E Silver nitrate dressing

Due to the phenomenon of pathergy, use of dressings that may adhere to the area of inflammation, such as silver nitrate, should be avoided.

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Responses Correct:	0
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A 25-year-old male, presented with a 3 year history of red, itchy nodules on his left shoulder. He had a previous history of acne vulgaris. He is concerned about the appearance of the lesions.



What is the next management step?

A	Biopsy one of the lesions
B	Oral antihistamine
C	Intra-lesional triamcinolone
D	Topical steroid creams
E	Reassurance they will resolve over time

39071

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Normal Values

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What is the next management step?

A	Biopsy one of the lesions
B	Oral antihistamine
C	Intra-lesional triamcinolone
D	Topical steroid creams
E	Reassurance they will resolve over time

Explanation

C	Intra-lesional triamcinolone

The lesions in the photograph are keloid scars, secondary to acne. From the options given, only intra-lesional corticosteroids are likely to drive resolution of the lesions, although there are risks of local bleeding, infection and skin atrophy.

A	Biopsy one of the lesions

A biopsy is not necessary to confirm the diagnosis, and may worsen any scarring.

B	Oral antihistamine

Although oral antihistamines may reduce itching local irritation, they won't impact on the cosmetic appearance of the lesions.

D	Topical steroid creams

Topical steroid creams only poorly penetrate overlying scarring from the acne.

E	Reassurance they will resolve over time

There is evidence of permanent scarring from the previous acne, which won't resolve over time.

39071

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A 57-year-old lady presented with hair loss, distributed on the front and crown of her scalp but sparing the sides. She denied using braids, straighteners, tongs or wearing a ponytail. She had no other significant medical problems.



How would you best describe this type of alopecia?

A	Cicatricial alopecia
B	Androgenetic alopecia
C	Telogen effluvium
D	Traction alopecia
E	Alopecia areata

39072

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Normal Values

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C	Telogen effluvium
D	Traction alopecia
E	Alopecia areata

Explanation

B	Androgenetic alopecia

Hair loss in this pattern in females may be associated with increased androgens, for example in a patient with polycystic ovarian syndrome, (PCOS). It results in gradual, diffuse thinning over the crown and frontal scalp. A rim of hair is preserved along the frontal margin (in males, this may not be maintained), back and sides of the scalp. (Occipital follicles are not dependent on androgens and are a source for hair transplant.)

A	Cicatricial alopecia

In cicatricial (scarring) alopecia, one would expect to see erythema, scaling, pustules and hyperkeratosis as well as fibrosis.

C	Telogen effluvium

Telogen effluvium occurs because of sudden entry of hair follicles into the resting phase, resulting in increased hair loss. It is usually associated with acute illness.

D	Traction alopecia

Traction alopecia occurs when hair is styled by tightly pulling it back, for example into a pony tail.

E	Alopecia areata

Alopecia areata is autoimmune in origin and results in localised non-scarring alopecia.

39072

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A 57-year-old lady presented with hair loss, distributed on the front and crown of her scalp but sparing the sides. She denied using braids, straighteners, tongs or wearing a ponytail. She had no other significant medical problems.



What is the most appropriate initial intervention to treat her hair loss?

A	Topical Minoxidil
B	Oral Minoxidil
C	Laser therapy
D	Topical steroids
E	Antifungal shampoo

39073

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Calculator

Normal Values

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A	Topical Minoxidil
B	Oral Minoxidil
C	Laser therapy
D	Topical steroids
E	Antifungal shampoo

Explanation

A	Topical Minoxidil

This patient has hair loss in a pattern either related to androgen excess or to increased sensitivity to androgens. Topical treatment of choice is minoxidil, which promotes hair re-growth. Other options include systemic anti-androgens such as finasteride.

B	Oral Minoxidil

Oral minoxidil is a vasodilator used for resistant hypertension, and it was found in clinical trials to stimulate hair growth as a side-effect of therapy.

C	Laser therapy

Laser therapy is of course used for hair removal rather than to stimulate hair growth.

D	Topical steroids

Topical steroids are used in scarring alopecia to reduce inflammation.

E	Antifungal shampoo

Anti-fungal shampoo is used to treat seborrheic dermatitis and pityriasis versicolor.

39073

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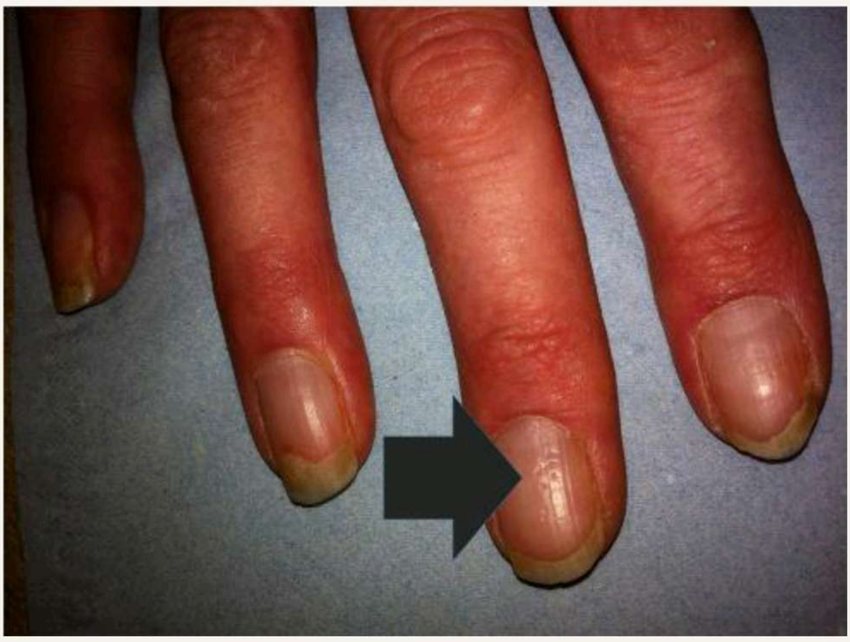
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A picture of a patient's finger nails is shown below:



Which of the following conditions are they most likely to suffer from?

A	Psoriasis
B	Rheumatoid arthritis
C	Iron deficiency anaemia
D	Idiopathic pulmonary fibrosis
E	Subacute bacterial endocarditis

39074

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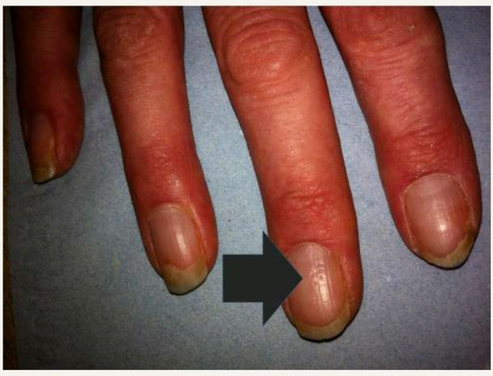
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Calculator

Normal Values

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Which of the following conditions are they most likely to suffer from?

A	Psoriasis
B	Rheumatoid arthritis
C	Iron deficiency anaemia
D	Idiopathic pulmonary fibrosis
E	Subacute bacterial endocarditis

Explanation

A	Psoriasis

The photograph shows nail pitting, which occurs in psoriasis, eczema and alopecia areata. It may pre-date the development of the typical psoriatic rash.

B	Rheumatoid arthritis

Rheumatoid arthritis may be associated with nail ridging or longitudinal splitting, not with the pitting seen here.

C	Iron deficiency anaemia

Iron deficiency anaemia is associated with koilonychias or spoon shaped nails.

D	Idiopathic pulmonary fibrosis

Idiopathic pulmonary fibrosis is associated with nail clubbing rather than nail pitting.

E	Subacute bacterial endocarditis

This is associated with clubbing and / or splinter haemorrhages.

39074

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This 48-year-old lady presented with the rash shown. She has had it for many years, been too embarrassed to come to the doctors and has never shown her skin to anyone, except her GP. She has been using topical creams including Calcipotriol and topical steroids. She has a history of breast cancer, in remission, type 2 diabetes and chronic kidney disease stage 3.



What would be the next most appropriate management step?

A	Ciclosporin
B	Methotrexate
C	Narrow band UVB
D	Skin biopsy
E	Skin swab for microscopy, culture and sensitivity

39075

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B	Methotrexate
C	Narrow band UVB
D	Skin biopsy
E	Skin swab for microscopy, culture and sensitivity

Explanation

C Narrow band UVB

Narrow band UVB (phototherapy) is the most commonlyused second line treatment for psoriasis, after topical treatment, providing there is no past history of skin cancer. It carries less liability than systemic treatments given this patient's past medical history and is therefore the preferred next therapy choice.

A Ciclosporin

Cyclosporine is an anti-T cell immunosuppressive which can accumulate in renal impairment. Given the history of both cancer and chronic renal impairment, it is best avoided here.

B Methotrexate

Methotrexate interferes with DNA synthesis, as such, like cyclosporine, use in a patient with a past history of cancer should be avoided if possible.

D Skin biopsy

The rash is entirely consistent with psoriasis. As such moving to biopsy risks scarring without adding significantly to the underlying diagnosis.

E Skin swab for microscopy, culture and sensitivity

The image is of typical psoriatic plaques, as such there is no value in MCS in the management of this case.

39075

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This 48-year-old lady presented with the rash shown. She has had it for many years, been too embarrassed to come to the doctors and has never shown her skin to anyone, except her GP. She has been using topical creams including Calcipotriol and topical steroids. She has a history of breast cancer, in remission, type 2 diabetes and chronic kidney disease stage 2.



Gentle rubbing of the skin over a plaque to remove scales reveals punctate bleeding spots.

What is this sign known as?

A	Russell's sign
B	Kehr's sign
C	Hutchinson's sign
D	Nickolsky's sign
E	Auspitz's sign

39076

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Calculator

Normal Values

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What is this sign known as?

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B	Kehr's sign
C	Hutchinson's sign
D	Nickolsky's sign
E	Auspitz's sign

Explanation

E	Auspitz's sign

Auspitz's sign. Auspitz's sign, where punctate bleeding spots are seen when scales are scraped away from the surface of a plaque, is typical of psoriasis.

A	Russell's sign

Russell's sign is callous formation over the knuckles on the back of the hand due to repeated self induced vomiting.

B	Kehr's sign

Kehr's sign is the presence of shoulder tip pain as a result of blood or irritation within the peritoneal cavity.

C	Hutchinson's sign

Hutchinson's sign (hyperpigmentation of the nail bed and matrix) is important in diagnosing subungual melanoma.

D	Nickolsky's sign

Nickolsky's sign is important when diagnosing TEN (toxic epidermal necrolysis). Slight rubbing of the skin results in exfoliation of the epidermis causing a blister.

39076

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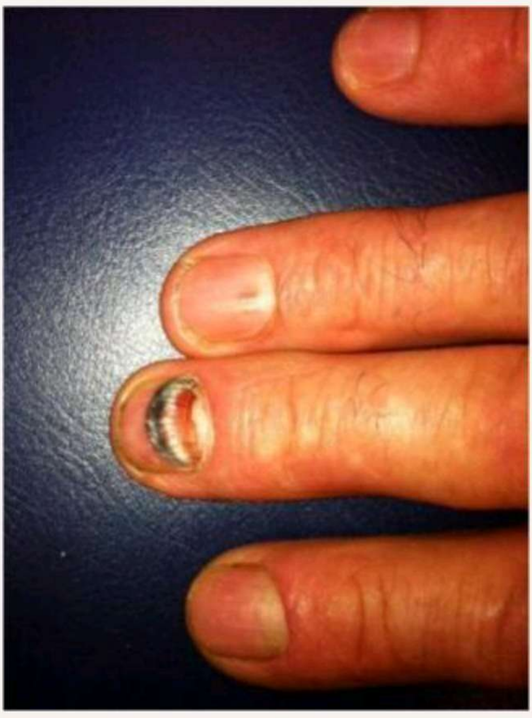
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A 26-year-old builder attended the clinic, concerned that he may have ‘skin cancer’ under his nail. He could not recall any previous trauma to the nail.



What is the most likely diagnosis?

A	Subungual melanoma
B	Traumatic nail change
C	Pseudomonas infection
D	Onychomycosis
E	Argyria

39077

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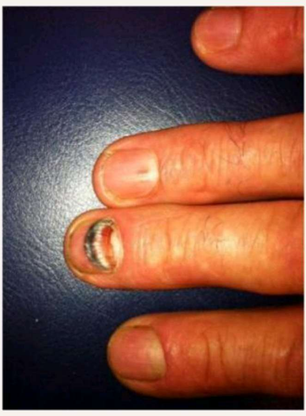
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What is the most likely diagnosis?

A	Subungual melanoma
B	Traumatic nail change
C	Pseudomonas infection
D	Onychomycosis
E	Argyria

Explanation

B	Traumatic nail change

Traumatic nail change is suggested by the occupation of the patient. (Patients often don't recall an episode of trauma.) Also the different colours lined symmetrically and longitudinally suggest anold haematoma. Hutchinson's sign is negative, (hyperpigmentation of the nail bed and matrix).

A	Subungual melanoma

In subungual melanomas are associated with a positive Hutchinson's sign, (hyperpigmentation, (usually blue / black) of the nail bed and matrix).

C	Pseudomonas infection

Pseudomonas causes black or green nail discoloration versus the band of pigment change across the nail related to trauma.

D	Onychomycosis

This causes yellow or brown nail discoloration, with brittle, crumbling nails.

E	Argyria

Argyria is silver poisoning, and leads to blue nail discoloration, not cofinedto a single nail as is seen here.

39077

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A 62 year old man presents with this nail lesion which is diagnosed as a squamous cell carcinoma of the nail:



Which of the following viruses is most likely to be the cause?

A	HPV 2
B	HPV 16
C	HPV 4
D	Pox virus
E	Coxsackie B virus

39078

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Calculator

Normal Values

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Which of the following viruses is most likely to be the cause?

A	HPV 2
B	HPV 16
C	HPV 4
D	Pox virus
E	Coxsackie B virus

Explanation

B	HPV 16

Case series suggest that HPV16 is the most common papilloma virus subtype responsible for causing periungual squamous cell carcinoma, the diagnosis here. Other high risk cancer HPV subtypes include 18, 31 and 45.

A	HPV 2

HPV 2 is responsible for common and plantar warts, but is less likely to be a cause of squamous cell carcinoma.

C	HPV 4

HPV 4 is the primary cause of plantar warts.

D	Pox virus

Pox viruses are responsible for development of molluscum contagiosum, not for nail related squamous cell carcinoma.

E	Coxsackie B virus

Coxsackie B is a pathogenic enterovirus and is not linked to the development of nail changes.

39078

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This 28-year-old gentleman presented with hyperpigmented patches in his mouth (shown). He has been feeling increasingly unwell with lethargy, nausea and vomiting over the past few days.





What other findings would you expect?

A	Hypotension
B	Hypokalaemia
C	Hypernatraemia
D	Hyperglycaemia
E	Metabolic alkalosis

39079

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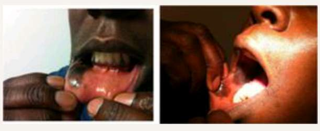
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Normal Values

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What other findings would you expect?

A	Hypotension
B	Hypokalaemia
C	Hypernatraemia
D	Hyperglycaemia
E	Metabolic alkalosis

Explanation

A	Hypotension

This patient has buccal pigmentation which raises the possibility of adrenal insufficiency, supported by the history of nausea and lethargy over the past few days. It's likely that he will be suffering from postural hypotension, driving the correct answer here.

B	Hypokalaemia

Adrenal insufficiency is associated with hyperkalaemia, not hypokalaemia, and hyporeninaemic hyperaldosteronism, a cause of hypokalaemia isn't associated with buccal pigmentation.

C	Hypernatraemia

Hyponatraemia is seen in adrenal insufficiency, hypernatraemia is seen in other conditions such as diabetes insipidus where free water is lost.

D	Hyperglycaemia

Diabetes mellitus may co-exist with adrenal insufficiency, although reduced production of counter-regulatory hormones makes hypo rather than hyperglycaemia more likely.

E	Metabolic alkalosis

Metabolic acidosis is seen in association with adrenal insufficiency.

39079

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This 31-year-old gentleman presented with asymptomatic lesions on his knees, noticed by his GP while doing a knee exam for knee pain. They are occasionally itchy. They are also present on his chest, elbows and buttocks. He suffered an episode of acute pancreatitis which occurred whilst he lived in Kenya, which was put down to excess alcohol consumption.



What are the lesions found on his legs?

A	Xanthelasma palpebrum
B	Tuberous xanthomas
C	Tendinous xanthomas
D	Eruptive xanthomas
E	Xanthoma disseminatum

39080

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What are the lesions found on his legs?

A	Xanthelasma palpebrum
B	Tuberous xanthomas
C	Tendinous xanthomas
D	Eruptive xanthomas
E	Xanthoma disseminatum

Explanation

D Eruptive xanthomas

Eruptive xanthomas appear on extensor surfaces as crops of small red-yellow papules, and are associated with hypertriglyceridaemia, a potential cause of acute pancreatitis.

A Xanthelasma palpebrum

These are common, and exist as soft, yellow flattened lipid plaques over the eyelids, and are associated with mixed hyperlipidaemia.

B Tuberous xanthomas

Tuberous xanthomas are associated with elevated LDL cholesterol and mixed dyslipidaemia. They are firm painless nodules which occur over pressure areas.

C Tendinous xanthomas

Tendon xanthomas are slowly enlarging subcutaneous nodules over tendons, and are associated with familial hypercholesterolaemia.

E Xanthoma disseminatum

Xanthoma disseminatum is associated with hundreds of small yellow-brown papules due to a rare form of histiocytosis, not due to abnormalities in lipid metabolism.

39080

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A 22-year-old lorry driver attended with the rash pictured. It is confined to the right shin and is intensely itchy. He had no skin conditions prior to this rash, which started after a period of financial stressed caused by losing money through gambling.



What is the likely cause?

A	Lichen striatus
B	Lichen simplex et chronicus
C	Lichen planus
D	Lichen sclerosus et atrophicans
E	Lichen aureus

39082

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Calculator

Normal Values

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A	Lichen striatus
B	Lichen simplex et chronicus
C	Lichen planus
D	Lichen sclerosus et atrophicans
E	Lichen aureus

Explanation

B	Lichen simplex et chronicus

Lichen simplex is a form of neurodermatitis, caused by a vicious 'itch-scratch' cycle where scratching causes feedback from the brain to trigger the feeling of itchiness. It is triggered and exacerbated by stress. Interfering with the itch-scratch cycle using agents such as anti-histamines can lead to resolution of the condition.

A	Lichen striatus

This is associated with scaly linear bands.

C	Lichen planus

Lichen planus appears as small purple papules on the skin and may also be seen as white lacy patches in the mouth.

D	Lichen sclerosus et atrophicans

This gives a white, shiny appearance to the skin rather than the papules seen here.

E	Lichen aureus

Lichen aureus is a pigmented dermatosis which is associated with a golden discoloration to the area of affected skin.

39082

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A 36-year-old lady presents with widespread pruritus and scaling skin changes all over her body. She tells you they have been there since childhood. There is a widespread skin rash, part of which is shown in the picture.



Which of the following is the most likely diagnosis?

A	Atopic eczema
B	Psoriasis vulgaris
C	Ichthyosis vulgaris
D	Seborrhoeic dermatitis
E	Systemic sclerosis

39083

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Calculator

Normal Values

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A 36-year-old lady presents with widespread pruritus and scaling skin changes all over her body. She tells you they have been there since childhood. There is a widespread skin rash, part of which is shown in the picture.



Which of the following is the most likely diagnosis?

A	Atopic eczema
B	Psoriasis vulgaris
C	Ichthyosis vulgaris
D	Seborrhoeic dermatitis
E	Systemic sclerosis

Explanation

C	Ichthyosis vulgaris

Ichthyosis vulgaris is an inherited, autosomal dominant, causing widespread, scaly skin. It is caused by a mutation in the gene encoding profilaggrin (a protein which is converted into filaggrin, and has a vital role in skin structure) and is one of the most common genetic disorders caused by a single gene.

A	Atopic eczema

Atopic eczema is associated with areas of erythema, particularly on flexural skin surfaces, rather than the picture of skin scaling seen here.

B	Psoriasis vulgaris

Psoriasis is associated with erythematous plaques and skin scaling, primarily on extensor skin surfaces.

D	Seborrhoeic dermatitis

This is particularly associated with papules and pustular inflammation, primarily affecting the scalp.

E	Systemic sclerosis

Systemic sclerosis is associated with skin thickening and calcinosis affecting the fingers in particular, tightening of the skin around the mouth (xerostomia), and development of telangiectasia.

39083

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An 18-year-old woman presents with a weepy, itchy flexural rash. She has been using potent topical steroids for 6 months, without much benefit. She thinks she may be allergic to her washing powder. The itching is keeping her awake at night.





What is the next management step?

A	Oral Prednisolone
B	Topical calcineurin inhibitors
C	Skin prick testing
D	Counselling to help break the scratch itch cycle
E	Topical Calcipotriol

39084

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Normal Values

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What is the next management step?

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C	Skin prick testing
D	Counselling to help break the scratch itch cycle
E	Topical Calcipotriol

Explanation

B	Topical calcineurin inhibitors

Topical calcineurin inhibitors e.g. tacrolimus/pimecrolimus are often used as a steroid alternative, when steroids have stopped working (often due to steroid resistance). They should not be used in pregnancy because of systemic toxicity shown in patients receiving them by the oral route.

A	Oral Prednisolone

Given the efficacy of steroid sparing topical therapies such as tacrolimus, the benefit risk profile of oral prednisolone versus other options is not considered positive.

C	Skin prick testing

Skin prick testing is not usually helpful in identifying a precipitating allergen in atopic eczema.

D	Counselling to help break the scratch itch cycle

Counselling alone is very unlikely to improve this patients' severe atopic eczema.

E	Topical Calcipotriol

Calcipotriol is a standard therapy for the treatment of psoriasis, not for eczema.

39084

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A 30-year-old man presents to the clinic for review. He was diagnosed with an inherited condition when he was 9 years old.



Which of the following complications should one look for?

A	Optic glioma
B	Retinal hamartomas
C	Facial angiofibromas
D	Connective tissue naevi
E	Cardiac rhabdomyoma

39085

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Normal Values

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Which of the following complications should one look for?

A	Optic glioma
B	Retinal hamartomas
C	Facial angiofibromas
D	Connective tissue naevi
E	Cardiac rhabdomyoma

Explanation

A	Optic glioma

The pictures show multiple neurofibromas and a very large café-au-lait patch consistent with neurofibromatosis type 1. Diagnostic criteria for NF1 are well established and include:

- At least six café-au-lait spots or hyperpigmented macules. They must be at least 5 mm wide in children younger than 10 years and 15 mm in adults.
- Axillary or inguinal freckles.
- Two or more typical neurofibromas or one plexiform neurofibroma.
- Optic nerve glioma.
- Two or more iris hamartomas. They are called Lisch nodules and are seen by slit-lamp examination.
- Sphenoid dysplasia or typical long-bone abnormalities such as arthrosis.

B	Retinal hamartomas

Retinal hamartomas are associated with tuberous sclerosis, not with NF1.

C	Facial angiofibromas

Facial angiofibromas are also associated with tuberous sclerosis, may be cosmetically disfiguring and are often amenable to laser therapy.

D	Connective tissue naevi

Connective tissue naevi are associated with tuberous sclerosis and other diseases such as Cowden disease and proteus syndrome.

E	Cardiac rhabdomyoma

Cardiac rhabdomyomas are the most common tumours of the heart in children, and are associated with tuberous sclerosis.

39085

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© Pastest 2017

A 21-year-old professional athlete presented with an itchy rash in his right axilla.



What is the most likely diagnosis?

A	Acanthosis nigricans
B	Tinea corporis
C	Systemic lupus erythematosus (SLE)
D	Erythrasma
E	Epidermal naevus

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A 21-year-old professional athlete presented with an itchy rash in his right axilla.



What is the most likely diagnosis?

A	Acanthosis nigricans
B	Tinea corporis
C	Systemic lupus erythematosus (SLE)
D	Erythrasma
E	Epidermal naevus

Explanation

B	Tinea corporis

This is an annular, red lesion with a raised, scaly border, most in keeping with tinea cruris. The rash may well be related to excess sweating linked to sporting activity. Topical azoles are the intervention of choice.

A	Acanthosis nigricans

Acanthosis nigricans is associated with a velvety brown hyperpigmentation of the skin, it is associated with obesity, insulin resistance and gastric carcinoma.

C	Systemic lupus erythematosus (SLE)

SLE is associated an erythematous rash which worsens on sun exposure.

D	Erythrasma

Erythrasma is a superficial skin infection caused by Corynebacterium minutissimum and occurs in skin folds.

E	Epidermal naevus

An epidermal nevus is a benign hamartomatous growth. It presents as a group of verrucous, closely grouped, skin-colored to brown papules and develops in childhood.

AEpidermal nevus (EN) is a benign hamartomatous growth. It presents as a group of verrucous, closely grouped, skin-colored to brown papules Epidermal nevus (EN) is a benign hamartomatous growth. It presents as a group of verrucous, closely grouped, skin-colored to brown papules

39086

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How would you describe the nail changes in the above image?

A	Onychogryphosis
B	Onychorrhexis
C	Koilonychia
D	Onychomadesis
E	Onycholysis

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How would you describe the nail changes in the above image?

A	Onychogryphosis
B	Onychorrhexis
C	Koilonychia
D	Onychomadesis
E	Onycholysis

Explanation

E	Onycholysis

Onycholysis is a common condition where the nail plate separates from an abnormal nail matrix, and is associated with trauma, infection and a number of skin diseases, including cutaneous lupus and pemphigus.

A	Onychogryphosis

Onychogryphosis, or ram's horn nails are hypertrophied nails resembling claws or a ram's horn and often seen in the elderly who fail to cut their nails.

B	Onychorrhexis

Onychorrhexis is caused by diffuse damage to the nail bed resulting in thinning, longitudinal ridging and fissuring of the nail.

C	Koilonychia

These are spoon shaped nails related to iron deficiency anaemia.

D	Onychomadesis

Onychomadesis occurs due to arrest of all matrix activity and causes nail shedding.

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Consider the following image;



Which of the following is the most appropriate treatment for the affected nail?

A	Psoralen plus UVA treatment
B	Nail bed triamcinolone
C	Cutting the nail short
D	Removal of the nail
E	Topical corticosteroid ointment

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Consider the following image;



Which of the following is the most appropriate treatment for the affected nail?

A	Psoralen plus UVA treatment
B	Nail bed triamcinolone
C	Cutting the nail short
D	Removal of the nail
E	Topical corticosteroid ointment

Explanation

C	Cutting the nail short

This patient has onycholysis, where the nail plate has separated from a abnormal nail matrix. There is no obvious skin disease affecting this or the other fingers, trauma would therefore be considered a possible cause. Cutting the nail short is the best way to avoid further damage.

A	Psoralen plus UVA treatment

Similar to nail bed triamcinolone, this is usually considered for patients with psoriatic disease.

B	Nail bed triamcinolone

Nail bed triamcinolone is considered in patients with severe nail dystrophy related to psoriasis.

D	Removal of the nail

This runs the risk of the nail growing back in a more abnormal shape and should be avoided if possible.

E	Topical corticosteroid ointment

This may have a role in onycholysis related to eczema.

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Responses Total:	167
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This 36-year-old presented with a receding frontal hair line and loss of eyebrows. Closer inspection of the hair follicles revealed hyperkeratosis within the hair follicles (shown) and perifollicular inflammation. The black line denotes the original hair line. She also had white, lacy streaks in her mouth and painless white streaks on the vulva.



Which of the following is the most likely diagnosis?

A	Lichen planopilaris
B	Discoid lupus erythematosus
C	Alopecia areata
D	Hypothyroidism
E	Lichen sclerosis

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Normal Values

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Which of the following is the most likely diagnosis?

A	Lichen planopilaris
B	Discoid lupus erythematosus
C	Alopecia areata
D	Hypothyroidism
E	Lichen sclerosis

Explanation

A	Lichen planopilaris

LPP is a variant of lichen planus. It causes inflammation around hair follicles with destruction of hair follicles and eventually a scarring alopecia. There is central horn plugging in the ostium of the follicle. Wickham's striae occur in lichen planus as do vulval lesions.

B	Discoid lupus erythematosus

This is associated with an erythematous rash which is worse on sun exposure and potential scarring alopecia.

C	Alopecia areata

This is associated with patches of non-scarring hair loss.

D	Hypothyroidism

This is associated with brittle hair and non-scarring hair loss.

E	Lichen sclerosis

This most commonly affects the vulva and is associated with pale skin changes and inflammation, which may eventually lead to fibrosis.

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Responses Incorrect:	168
Responses Total:	168
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A 40-year-old gentleman presented with an asymptomatic, rash of the dorsum of his foot (shown.) On examination he had multiple pin-point macules and 'cayenne pepper spots'. He tells you he took part in a long-distance run a few days earlier.



What is the likely pathology?

A	Lipodermatosclerosis
B	Necrobiosis lipoidica
C	Capillaritis
D	Livedo reticularis
E	Erythromelalgia

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Normal Values

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What is the likely pathology?

A	Lipodermatosclerosis
B	Necrobiosis lipoidica
C	Capillaritis
D	Livedo reticularis
E	Erythromelalgia

Explanation

C	Capillaritis

Capillaritis (otherwise known as progressive pigmented purpura, or Schamberg's disease) can arise due to exercise, for no known cause, and due to venous insufficiency. It is asymptomatic and has no systemic associations. In this case itis likely to be due to the long-distance run and will resolve over a few days.

A	Lipodermatosclerosis

Lipodermatosclerosis is painful indurated erythema and occurs in people with chronic venous insufficiency.

B	Necrobiosis lipoidica

Necrobiosis lipoidica consist of well-defined yellow plaques with telangiectasia, atrophic or ulcerated centre and a raised erythematous rim, associated with insulin dependent diabetes.

D	Livedo reticularis

Livedo reticularis occurs in a net-like, mottled pattern, is more marked in cold weather, and is seen on both upper and lower limbs.

E	Erythromelalgia

Erythromelalgia is a painful, burning erythema associated with thrombocythaemia.

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A 21-year-old male presents with an itchy, erythematous rash on his back. He is usually fit and well and has no past medical history of note.



Which of the following words best describes the pattern of the skin rash on display?

A	Serpiginous
B	Nummular
C	Reticulated
D	Annular
E	Linear

39091

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Normal Values

© Pastest 2017

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Which of the following words best describes the pattern of the skin rash on display?

A	Serpiginous
B	Nummular
C	Reticulated
D	Annular
E	Linear

Explanation

D Annular

The pattern here is of ring shaped areas of erythema with central clearing, which fits well with an annular rash.

A Serpiginous

Serpiginous rashes are curved, forming the shape of a serpent, (hence their name).

B Nummular

Nummular rashes are circular and coin shaped and do not have the central clearing seen here.

C Reticulated

A reticulated rash has a lace or networked pattern, rather than the picture seen here.

E Linear

Linear rashes occur in lines; an example is lichen striatus, which is most commonly seen in children.

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A 52 year old man comes to the dermatology clinic for review. He has severe psoriasis which has failed to respond adequately to topical steroids, calcipotriol and acitretin. On examination of his hands you note nail pitting and evidence of distal inflammatory arthritis. His back and arms are shown below.



Which of the following is the most appropriate next step?

A	Oral prednisolone
B	Oral methotrexate
C	Subcutaneous infliximab
D	Oral cyclosporine
E	Oral azathioprine

39092

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C	Subcutaneous infliximab
D	Oral cyclosporine
E	Oral azathioprine

Explanation

B	Oral methotrexate

Methotrexate is the next intervention of choice for this patient's severe psoriasis, especially as it is thought to be useful in delaying progression of psoriatic arthritis.

A	Oral prednisolone

Oral prednisolone may impact on the inflammatory component of psoriasis, although the benefit risk of systemic steroids isn't favourable versus other potential second line agents such as methotrexate.

C	Subcutaneous infliximab

Biologicals targeting TNF-alpha, such as infliximab are the intervention of choice where control of psoriasis isn't gained with a typical second line agent.

D	Oral cyclosporine

Oral cyclosporine is more commonly used in the treatment of atopic dermatitis which fails to respond to corticosteroids alone.

E	Oral azathioprine

Azathioprine is an alternative agent to methotrexate for the treatment of psoriasis but may be less effective in managing psoriatic arthritis.

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This 52-year-old gentleman has been struggling with his skin condition for most of his life. You decide that he requires a strong keratolytic agent, to combat the scale.



Which topical treatment would be the best choice for him?

A	Potent topical steroid
B	Topical Tacrolimus
C	Topical Capsaicin
D	Topical Salicylic acid
E	Topical Menthol

39093

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Normal Values

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Which topical treatment would be the best choice for him?

A	Potent topical steroid
B	Topical Tacrolimus
C	Topical Capsaicin
D	Topical Salicylic acid
E	Topical Menthol

Explanation

This patient has psoriasis. Salicylic acid is a keratolytic agent, meaning it decreases cell-to-cell cohesion in the stratum corneum, thereby reducing hyperkeratosis and increasing absorption of other medications, such as anti-inflammatory agents. Topical Menthol (also used in chewing gum) is used to provide a sensation of 'cooling' of the skin and Capsaicin is used in neurodermatitis to treat nerve pain.

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Responses Correct:	0
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A 52 year old man presents to the dermatology clinic for review. He has trialed methotrexate and acitretin for his psoriasis and failed to gain adequate benefit from phototherapy. You plan a trial of ustekinumab.



What is the mode of action of Ustekinumab?

A	Anti IL12 and anti IL23 monoclonal antibody
B	Anti-TNF monoclonal antibody
C	Anti-CD20 monoclonal antibody
D	Anti-VEGF monoclonal antibody
E	Anti-IgE monoclonal antibody

39094

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Normal Values

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A	Anti IL12 and anti IL23 monoclonal antibody
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C	Anti-CD20 monoclonal antibody
D	Anti-VEGF monoclonal antibody
E	Anti-IgE monoclonal antibody

Explanation

A Anti IL12 and anti IL23 monoclonal antibody

Ustekinumab is a fully human IgG1κ monoclonal antibody that binds with specificity to the shared p40 protein subunit of human cytokines interleukin (IL)-12 and IL-23. It inhibits the bioactivity of human IL-12 and IL-23 by preventing p40 from binding to the IL-12Rβ1 receptor protein expressed on the surface of immune cells.

B Anti-TNF monoclonal antibody

A range of monoclonal antibodies inhibit the TNF-alpha pathway; examples include infliximab and adalimumab. These are also used in the management of psoriasis.

C Anti-CD20 monoclonal antibody

Rituximab is an example of an anti-CD20 monoclonal antibody used in the treatment of a range of inflammatory diseases and haematological malignancies.

D Anti-VEGF monoclonal antibody

Bevacizumab is an example of an anti-VEGF monoclonal antibody, used in the treatment of colon cancer.

E Anti-IgE monoclonal antibody

Omalizumab binds to IgE and prevents binding of IgE to Fcε RI (high-affinity IgE receptor) on basophils and mast cells, thereby reducing the amount of free IgE that is available to trigger the allergic cascade. Omalizumab is used in asthma and severe eczema which is resistant to other interventions.

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A 36-year-old male is referred by his GP with this lesion on his anterior shoulder. He feels it is unsightly and that it may need to be removed.



When did the lesion most likely appear?

A	At birth
B	At onset of puberty
C	In the last 2-3 years
D	Related to sun exposure in the last 10 years
E	Related to alcohol consumption

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Calculator

Normal Values

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A 36-year-old male is referred by his GP with this lesion on his anterior shoulder. He feels it is unsightly and that it may need to be removed.



When did the lesion most likely appear?

A	At birth
B	At onset of puberty
C	In the last 2-3 years
D	Related to sun exposure in the last 10 years
E	Related to alcohol consumption

Explanation

B	At onset of puberty

This is a late onset epidermal naevus or birthmark, which occurs mainly in males and is triggered to develop in puberty by circulating androgens. The linear nature of the lesions with evidence of increased pigmentation/keratosis, is more typical of an adolescent onset lesion rather than one which presents at birth.

A	At birth

Congenital naevi identified at birth tend not to follow the linear pattern seen here, making the lesion less likely to have been present at birth.

C	In the last 2-3 years

As these lesions are related to the puberty related hormone surge and there is no evidence of use of unregulated androgens for body building, it's highly unlikely this man's naevus has worsened over the past 2-3 years.

D	Related to sun exposure in the last 10 years

Excessive skin exposure may result in development of a skin cancer, but the picture here is much more consistent with a benign epidermal naevus.

E	Related to alcohol consumption

Alcohol consumption and smoking have no impact on the growth of late onset epidermal naevi.

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A 36-year-old male was referred by the GP with this lesion on his anterior shoulder. He has a new partner who finds it unsightly and he wants it treated.



What is the abnormal area of pigmentation over his shoulder?

A	Benign epidermal naevus
B	Naevus flameus
C	Mongolian blue spot
D	Café au lait spot
E	Haemangioma

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Normal Values

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B	Naevus flameus
C	Mongolian blue spot
D	Café au lait spot
E	Haemangioma

Explanation

A Benign epidermal naevus

Benign epidermal naevi, (formerly known as Becker's naevi), have a characteristic appearance with linear pigmentation, often located around the shoulder. They carry a brown pigment due to melanocytes and may also be hairy.

B Naevus flameus

This is a vascular naevus or port wine stain. When these occur on the head, patients are usually investigated for the presence of leptomeningeal angiomas.

C Mongolian blue spot

Mongolian blue spots are located over the sacrum, are blue in colour and identified at birth.

D Café au lait spot

These are flattened macular pigmented areas identified at birth and associated with neurofibromatosis Type 1.

E Haemangioma

Haemangiomas are benign vascular tumours identified in childhood, they are known as strawberry naevi because of their colour.

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A 26-year-old male body builder presents to the dermatology clinic with an itchy rash on his upper left chest. He maintains that he takes no medication and works out for many hours per day.



What is the most likely cause of the rash?

A	Dermatitis herpetiformis
B	Tinea corporis
C	Body wash
D	Anabolic steroid abuse
E	Impetigo

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Normal Values

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A	Dermatitis herpetiformis
B	Tinea corporis
C	Body wash
D	Anabolic steroid abuse
E	Impetigo

Explanation

D	Anabolic steroid abuse

This is an acneiform eruption consisting of pustules, papules and nodules, and a localised folliculitis on the upper chest. Anabolic steroids are a common cause of iatrogenic acne, and given his body building must be considered a possibility.

A	Dermatitis herpetiformis

Dermatitis herpetiformis is associated with generalised papules and blisters and often with symptoms of gluten sensitive enteropathy, rather than the localised rash in an otherwise well patient seen here.

B	Tinea corporis

Tinea corporis is seen as a scaly erythematous lesion which gradually enlarges, associated with clearance from the centre.

C	Body wash

Although an allergic reaction to body wash is possible, a generalised rash rather than the localised changes seen here would be expected.

E	Impetigo

Impetigo is a common skin infection usually occurring on the face, and is associated with honey coloured crusted plaques of infection.

39097

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A 41-year-old lady presents with a dry cough, fatigue and multiple joint pains. Her calcium is elevated at 2.85 mmol/l. She has multiple skin lesions, one of which is shown on her shin and a biopsy is taken.



What is the most likely histology for this lesion on her shin?

A	Granuloma with prominent epithelioid cells with sparse lymphocytic infiltrate at the margins.
B	Necrotising granuloma with few immune cells and evidence of haemorrhage
C	Necrotic granulomas with a cuff of lymphocytes
D	Necrobiotic granuloma (altered collagen surrounded by histiocytes and some multinucleated giant cells)
E	Suppurative granuloma with central neutrophil infiltration

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Normal Values

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D	Necrobiotic granuloma (altered collagen surrounded by histiocytes and some multinucleated giant cells)
E	Suppurative granuloma with central neutrophil infiltration

Explanation

A	Granuloma with prominent epithelioid cells with sparse lymphocytic infiltrate at the margins.

This is typical of sarcoid granuloma, the most likely diagnosis.

B	Necrotising granuloma with few immune cells and evidence of haemorrhage

This is the picture you would expect to see with Wegener's granulomatosis.

C	Necrotic granulomas with a cuff of lymphocytes

This is typical of the picture seen in tuberculoid granulomas, seen in TB and leprosy.

D	Necrobiotic granuloma (altered collagen surrounded by histiocytes and some multinucleated giant cells)

This is the picture seen in rheumatoid nodules and necrobiosis lipoidica.

E	Suppurative granuloma with central neutrophil infiltration

Suppurative granulomas with central neutrophil inflammation are associated with chronic infection due to diseases such as blastomycosis and cat scratch disease.

39098

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Responses Correct:	0
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A 41-year-old lady presented with fatigue, joint aches and dry, painful red eyes. Routine blood testing reveals a calcium level just above the upper end of the normal range. A biopsy of one of her skin lesions was taken.



Which enzyme is activated by macrophages in this condition?

A	Lactate dehydrogenase
B	1-alpha hydroxylase
C	Lysozyme
D	Glucose-6-phosphate dehydrogenase
E	Acid phosphatase

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Normal Values

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Which enzyme is activated by macrophages in this condition?

A	Lactate dehydrogenase
B	1-alpha hydroxylase
C	Lysozyme
D	Glucose-6-phosphate dehydrogenase
E	Acid phosphatase

Explanation

B	1-alpha hydroxylase

1-alpha hydroxylase is activated by macrophages in sarcoid granulomas (the diagnosis here), and converts 25-hydroxyvitamin D3 to 1,25-dihydroxyvitamine D3, the active form of the vitamin. Absorption of calcium from the gut increases as a consequence as does renal calcium excretion.

A	Lactate dehydrogenase

Lactate dehydrogenase is raised in myonecrosis, haematological malignancies and in patients with haemolysis.

C	Lysozyme

Lysozyme is an enzyme which drives bacterial cell wall lysis, it is not involved in the pathogenesis of sarcoidosis.

D	Glucose-6-phosphate dehydrogenase

Deficiency of G-6PD leads to red cell haemolysis in the presence of drugs which act as oxidising agents.

E	Acid phosphatase

Acid phosphatase is used as a marker for prostate cancer.

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A 32-year-old gentleman, who is known to suffer with anxiety and depression, presents with a chronic, intensely itchy, erythematous patch on his lower leg. He recognises and admits that the rash is worse after itching. There areno other skin problems noted elsewhere, and he has no other significant health problems. Routine bloods are unremarkable.



What is the most likely diagnosis?

A	Dysmorphophobia
B	Delusional parasitosis
C	Lichen simplex et chronicus
D	Dermatitis artefacta
E	Shingles

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Normal Values

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What is the most likely diagnosis?

A	Dysmorphophobia
B	Delusional parasitosis
C	Lichen simplex et chronicus
D	Dermatitis artefacta
E	Shingles

Explanation

C Lichen simplex et chronicus

Lichen simplex et chronicus occurs when the skin becomes thickened and leathery (lichenified) because of chronic rubbing – sometimes a stress related habit. It favours the calf, nape of the neck and vulval/peri-anal skin. The localised nature of this, coupled with the lack of other systemic features, further support the underlying diagnosis.

A Dysmorphophobia

Dysmorphophobia is an altered perception of one's appearance and a belief that there is a flaw in appearance. In some cases, this may result in inappropriate plastic surgery to alter appearance.

B Delusional parasitosis

Delusional parasitosis is a fixed, false belief that there is an infestation with insect or parasite and is much more likely to result in generalised symptoms.

D Dermatitis artefacta

Dermatitis artefacta is associated with self-mutilation, usually denied by the patient, and may appear overnight.

E Shingles

Shingles is an acutely painful vesicular rash, rather than the chronic itchy lesion seen here.

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A 32-year-old gentleman, who is known to suffer with anxiety and depression, presents with an intensely itchy, erythematous patch on his lower leg. He recognises and admits that the rash is worse after itching. There are no other skin problems noted elsewhere.



You plan to prescribe an occlusive treatment to help moisturise the skin over the leg.

Which of the following is likely to have the most occlusive effect?

A	Ointments
B	Gels
C	Creams
D	Lotions
E	Foam

40086

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A 32-year-old gentleman, who is known to suffer with anxiety and depression, presents with an intensely itchy, erythematous patch on his lower leg. He recognises and admits that the rash is worse after itching. There are no other skin problems noted elsewhere.



You plan to prescribe an occlusive treatment to help moisturise the skin over the leg.

Which of the following is likely to have the most occlusive effect?

A	Ointments
B	Gels
C	Creams
D	Lotions
E	Foam

Explanation

A	Ointments

Ointments are 80% oil and 20% water. These products feel greasy, do not absorb well and are generally not easy to use on large areas. They are 'occlusive,' which means they trap moisture and heat in very well. Ointments promote medication absorption over all other formulations.

B	Gels

Gels are emulsions that contain oil-in-water. They usually have an alcohol base. They dry into a thin, greaseless, film. Like lotions and foams, they are ideal for spreading on hairy areas and large areas.

C	Creams

Creams are a semi-solid emulsion, half oil and half water. This formulation is typically the easiest to use and is preferred by most patients. They spread easily, absorb quickly and wash off with water. They have a medium viscosity, and are reasonably hydrating without feeling too heavy on your skin.

D	Lotions

Lotions are thinner than creams, they absorb very quickly and feel very light on the skin. They are easier to distribute on hairy areas, but do not retain significant moisture over the skin surface.

E	Foam

Foams are pressurised collections of gaseous bubbles in a matrix of liquid film. Foam preparations spread readily and are easier to apply than other preparations.

40086

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A 65-year-old lady complained of localised hair loss in the vertex of her scalp, associated with itching irritation.



What is the likely diagnosis?

A	Cicatricial alopecia
B	Alopecia areata
C	Androgenetic alopecia
D	Trichotillomania
E	Telogen effluvium

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D	Trichotillomania
E	Telogen effluvium

Explanation

A Cicatricial alopecia

In cicatricial alopecia (also known as scarring alopecia) inflammation injures hair follicles resulting in permanent bald patches with no visible follicles. In this case the presence of inflammation can be seen as redness, scaling and crusting. Common causes for cicatricial alopecia include discoid lupus erythematosus, and lichen planopilaris (a variant of lichen planus). Treatment is dependent on the underlying causes but often requires topical corticosteroids. Given the fact some hair follicles have been destroyed and no regeneration is possible, treatment is aimed at reducing the amount of inflammation and minimising further hair loss

B Alopecia areata

Alopecia areata (AA) is a condition characterised by recurrent non-scarring patches of hair loss that can affect any hair-bearing area of skin. In the areas affected, the skin is normal in appearance. In the periphery there may be short, broken hairs that taper at the proximal end (exclamation point hairs) — this is a pathognomonic sign but is not always present. Patients may also complain of pruritus or a burning sensation in the affected skin areas. AA can occur at any age and affects both sexes equally. The natural history of the condition is unpredictable with no correlation existing between the number of patches at onset and the subsequent severity of the disease. Precipitating factors can be found in some patients but not all patients, and include: stressful events, febrile illnesses, drugs and pregnancy.

C Androgenetic alopecia

Androgenetic alopecia (also known as pattern hair loss) does not cause erythema, scale and crusting. It occurs due to genetic factors and hormonal influences. Androgenetic alopecia is apparent is about 50% of individual; by the age of 50 years. Typically, in men it affects the vertex and temporal scalp, whereas in women it is more diffuse and worst on the anterior scalp.

D Trichotillomania

Trichotillomania describes a psychological disorder where patients are compelled to pull their own hair, resulting in alopecia. It is typically encountered in teenage females and children, leading to irregular patches of alopecia that are not commonly associated with a scarring process unless encountered in chronic, severe forms.

E Telogen effluvium

Telogen effluvium is a diffuse, temporary, non-scarring form of alopecia where hair is lost 2-3 months following stressful events such as severe illnesses, accidents, and childbirth. Telogen effluvium is self-limiting and requires no medical interventions.

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Responses Incorrect:	181
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A 35-year-old lady attended with 3 naevi in her axillae. They have been present since early childhood. She feels they have been growing outwards recently, causing protuberance.



What are the naevi called?

A	Junctional
B	Intradermal
C	Compound
D	Congenital
E	Spitz

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What are the naevi called?

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Explanation

C Compound

A compound naevus has nests of naevus cells at the epidermal-dermal junction as well as within the dermis. They are raised and brown and may also be surrounded by a flat pigmented patch.

A Junctional

Junctional naevi are flat, brown naevi that occur due to the proliferation of melanocytes at dermo-epidermal junction.

B Intradermal

Intradermal (also known as dermal) naevi occur due to melanocyte clustering in the dermis. They are raised and have the same degree of pigmentation as the surrounding skin. Melanocytes usually start off in the dermo-epidermal junction and then travel downwards, deeper into the dermis. Clinically, whilst in the dermo-epidermal junction, the mole appears flat and brown (junctional naevi). As the melanocytes descend and form nests, the mole becomes raised but stays brown on colour (compound naevi). However when they continue to descend deeper into the dermis the brown pigment is no longer visible and the mole appears colourless (intradermal naevi). This cycle can take years, or the mole may never undergo any change and remain a junctional mole for the duration of the patient's lifetime.

D Congenital

Congenital naevi are pigmented and may be any size or shape, but notably are present at birth.

E Spitz

Spitz naevi are dome-shaped nodules that are rapidly growing and range in colour from reddish to brown or even black. Spitz naevi are uncommon and benign in nature. However, clinically they often resemble melanomas and are therefore excised.

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An 83-year-old man reports the presence of an unsightly and itchy lesion on his right temple. He is very distressed by its presence and is asking for it to be removed. Examination reveals an irregular, asymmetric, warty plaque that measures 2cm in diameter and has a stuck-on appearance.



How should the lesion be managed?

A	Curettage and cautery (C&C)
B	Urgent referral to the plastics team for excision
C	Incisional biopsy to confirm the diagnosis
D	Radiotherapy
E	Urgent referral to the oncology team for chemotherapy

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D	Radiotherapy
E	Urgent referral to the oncology team for chemotherapy

Explanation

A — Curettage and cautery (C&C)

Multiple treatments are available when treating seborrheic keratoses that have bothersome to the patient. Commonly used treatments include C&C, and cryotherapy (for thinner lesions).

B — Urgent referral to the plastics team for excision

The lesion represents a seborrheic keratosis. Typical features include a warty and waxy surface with surface crypts and a stuck on appearance. Seborrheic keratoses are benign entities and therefore urgent excision is not required. Referral to the plastics team would be appropriate for the excision of large skin cancers that are likely to require complex reconstruction with a flap or a graft.

C — Incisional biopsy to confirm the diagnosis

An incisional biopsy may be helpful in the diagnosis of atypical seborrheic keratoses from other lesions. However, in this case the clinical features are clear-cut and there is no diagnostic uncertainty.

D — Radiotherapy

Radiotherapy is not indicated in the treatment of seborrheic keratoses but could be considered in the management of large skin cancers were excision would be difficult to perform or in tumours with a high of recurrence or metastasis

E — Urgent referral to the oncology team for chemotherapy

Seborrheic keratoses are benign lesions and should not be referred for chemotherapy. Chemotherapy can be used in cases of advanced skin cancer in which there is a risk of metastatic disease.

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A 57-year-old woman reports the presence of an asymptomatic skin lesion on her left lower leg. Examination reveals a 4mm firm, pearly papule that dimples when pinched.

How should this lesion be managed best?

A	Excision with 4mm surgical margins
B	Curettage and cautery
C	Re-assurance
D	Offer follow-up in 4 months time in order to re-assess
E	Intralesional injection of corticosteroids

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E	Intralesional injection of corticosteroids

Explanation

C	Re-assurance

Dermatofibromas are benign and therefore require no treatment unless they become symptomatic.

A	Excision with 4mm surgical margins

The papule shown above represents a dermatofibroma. A benign fibrous lesion thought to occur following local tissue injury, often due to an insect bite. Dermatofibromas require no intervention unless they become bothersome to the patent (painful or itchy). An excision with 4mm surgical margins is the commonest used surgical method in the treatment of nodulocystic basal cell carcinomas. For dermatofibromas, excision should be reserved for cases of diagnostic uncertainty, symptomatic lesions (itchy), or for cosmetic purposes. In both cases, narrow excision with 2mm surgical margins should be employed

B	Curettage and cautery

Dermatofibromas are benign lesions that do not require any surgical intervention unless they become symptomatic.

D	Offer follow-up in 4 months time in order to re-assess

Given the benign nature of this lesion there is no need to offer further follow-up and the patient can be safely discharged. Follow-up of skin lesions is usually reserved for cases where the clinical diagnosis of melanoma is not clear-cut. A high quality photo of the lesion should be obtained and compared with the lesion at the time of follow-up for signs of change. If any changes are noted the lesion should then be excise as it carried a high risk of malignancy.

E	Intralesional injection of corticosteroids

Intralesional corticosteroid injections are commonly used in the treatment of keloid scars and alopecia areata. They have also been trialled in the treatment of dermatofibromas but with variable results. Given the benign, asymptomatic nature of this particular lesion medical interventions are unnecessary.

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A 40-year-old biology professor attended the Emergency Department with a very distressing itch. This started 9 months ago, after the patient moved to a new house. It has been resistant to both hydrocortisone 1% cream and terbinafine cream, given to her by the GP. On examination, there are excoriations, crusts and erosions. The patient insists that her new house is 'infested' and shows you 'tracks' on her skin from which she has extracted insects and insect parts, which she brings to show you (see image).



Given the suspected diagnosis, what is the best next management step?

A	Two treatments with permethrin cream, one week apart
B	Oral mebendazole
C	Hibiscrub washes and mupirocin nasal ointment for one week
D	Oral risperidone and psychiatry referral
E	Oral fexofenadine

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E	Oral fexofenadine

Explanation

D	Oral risperidone and psychiatry referral

The history and picture point to a diagnosis of delusional parasitosis, a psychiatric condition where patients acquire a strong delusional belief that they are infested with parasites. Often the imaginary parasites are described as bugs or insects that are crawling on or under the skin. Any marking on the skin, or particle found on the person or his/her clothing, can be interpreted by the patient as evidence for the parasitic infestation. Sufferers commonly compulsively gather such samples and present them to medical professionals. This behaviour of evidence gathering is known as the 'matchbox' sign because matchboxes are often used as the container in which samples are being kept by patients. The diagnosis of delusional parasitosis is supported by the fixed views of infestation, even when presented with strong evidence against it. Atypical antipsychotics such as olanzapine or risperidone are currently used as first line treatment in addition to input from the psychiatric services.

A	Two treatments with permethrin cream, one week apart

Permethrin cream is used in the treatment of scabies. Patients must also take appropriate measures to eradicate the mite from their clothes and bed linen in order to avoid being re-infected.

B	Oral mebendazole

Mebendazole is used to treat parasitic worm infection such as hookworm.

C	Hibiscrub washes and mupirocin nasal ointment for one week

The combination of hibiscrub washes and mupirocin nasal ointment is a commonly used treatment against colonisation by *methicillin-resistant Staphylococcus aureus* (*MRSA*).

E	Oral fexofenadine

Fexofenadine is a non-sedating antihistamine, commonly used in the treatment of chronic urticaria and allergic rhinitis.

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A 35-year-old lady complained of sensitivity of the fingers and toes to the cold and associated with colour change from white to blue and then to red.



What is the name given to this condition?

A	Raynaud's phenomenon
B	Cold agglutinin disease
C	Lupus pernio
D	Cutaneous vasculitis
E	Chilblains

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E	Chilblains

Explanation

A Raynaud's phenomenon

Raynaud's phenomenon can be primary (idiopathic) or secondary in patients with underlying connective tissue disorders (e.g. SLE, rheumatoid arthritis, and scleroderma). The classic picture of Raynaud's is of pain, discoloration and tingling in the peripheries. Typically, when exposed to cold weather the fingers or toes become pale in colour due to associated vasoconstriction. Subsequently, the skin turns blue due to lack of oxygen supply, erythematous due to reperfusion injury, and finally normalises. Long-standing Raynaud's phenomenon leads to ischaemic changes in the digits such as pulp atrophy, nail fold telangiectasia, and ulceration. Treatment of Raynaud's is with vasodilating agents in order to improve blood flow to the region.

B Cold agglutinin disease

Cold agglutinin disease is an autoimmune disorder that presents with episodes of haemolytic anaemia when exposed to cold weather. A common complaint among such patients is the development of painful fingers and toes with purplish discoloration associated with cold exposure that is known as cold agglutinin–mediated acrocyanosis. This differs from Raynaud's phenomenon and is not associated with a triphasic colour change (white to blue to red).

C Lupus pernio

Lupus pernio is the name given to the indurated purple-red plaques that can affect the skin of the nose, ears and cheeks in patients with cutaneous sarcoidosis.

D Cutaneous vasculitis

Cutaneous vasculitis is a group of disorders leading to inflammation of the vessels in the skin and subcutaneous tissues, but not those of internal organs. It presents as areas of purpura, petechiae, and even ulceration. Diagnosis is used confirmed but biopsy and immunohistochemistry in addition to lack of systemic symptoms, unremarkable blood tests and urinalysis.

E Chilblains

Chilblains (also known as perniosis) are a localised form of vasculitis that occurs several hours after exposure to the cold. They present as itchy or painful, purple-red nodules, and can also be associated with blistering and oedema.

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A 68-year-old woman is attending dermatology outpatients with an enlarging, asymptomatic mole on her abdomen. She is otherwise fit and healthy and does not take any regular medications.
Examination revealed the lesion which measures 8mm in maximum diameter.

How should this lesion be managed best?

A	Re-assurance
B	Incisional biopsy through the centre of the lesion
C	Excisional biopsy with 5mm clinical margins
D	Excisional biopsy with 2mm clinical margins
E	Excisional biopsy, followed by chemotherapy

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E	Excisional biopsy, followed by chemotherapy

Explanation

D	Excisional biopsy with 2mm clinical margins

This lesion represents a melanoma. The extent of tumour invasion may not be uniform within a lesion. Complete excision allows for accurate assessment of Breslow thickness that determines the subsequent management and prognosis.

A	Re-assurance

The lesion displayed shows features suggestive of a melanoma (asymmetry, shape irregularity, multiple colours, diameter larger than 6mm, and associated with a history of growth) and should not be left untreated.

B	Incisional biopsy through the centre of the lesion

Suspicious lesions, such as the one shown here, need to be excised rather than sampled with incisional biopsy. However, sampling suspicious areas may be indicated in large lesions, particularly those on the face.

C	Excisional biopsy with 5mm clinical margins

Following histological diagnosis of a melanoma further wide local excision is recommended with surgical margins dependant on Breslow thickness. In order to minimise unnecessarily large defects and ensure complete removal of the lesion, 2mm clinical margins are recommended.

E	Excisional biopsy, followed by chemotherapy

Not all melanomas require treatment with chemotherapy. Management is variable and depends on Breslow thickness. Decisions should be taken by the local multidisciplinary team meeting. Patients with high-risk melanomas or those with evidence of local lymphadenopathy should be investigated with CT scanning and may be considered for treatment with chemotherapy or immunotherapy.

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A 35-year-old lady, who has just had her first baby, attended the clinic with striae across her abdomen, which developed in the last trimester.



Which of the following hormones causes striae?

A	Cortisol
B	Human chorionic gonadotrophin
C	Progesterone
D	Thyroxin
E	Parathyroid hormone

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Which of the following hormones causes striae?

A	Cortisol
B	Human chorionic gonadotrophin
C	Progesterone
D	Thyroxin
E	Parathyroid hormone

Explanation

A	Cortisol

Striae are caused by rapid stretching of connective tissue. They are common in adolescence and pregnancy, where they are likely to develop in the 3rd trimester. They may also occur with topical or oral corticosteroid use or in Cushing's syndrome due to reduced skin pliability.

B	Human chorionic gonadotrophin

Human chorionic gonadotrophin (hCG) is produced by the placenta and is not associated with the development of striae. The detection of hCG in test strips is a commonly used over-the-counter diagnostic method of identifying pregnancy.

C	Progesterone

Progesterone is a crucial hormone that is implicated in multiple biological functions, such as the menstrual cycle and embryogenesis. Even though lack of progesterone is thought to cause acceleration of skin aging, the hormone itself has not been associated with the development of striae.

D	Thyroxin

Thyroxine is implicated in multiple aspects of human metabolism but is not thought to influence the development of striae.

E	Parathyroid hormone

Parathyroid hormone regulates serum calcium, phosphate and is implicated in the synthesis of vitamin D. It has not been associated however with the development of striae.

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A 30-year-old female in her third trimester of pregnancy presented with an intensely itchy rash that is keeping her awake at night. The rash started in the stretch marks of her abdomen and is spreading across her buttocks and thighs.



What is the most likely diagnosis?

A	Scabies
B	Polymorphic Eruption of Pregnancy
C	Chronic spontaneous urticaria
D	Lichen planus
E	Eczema

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E	Eczema

Explanation

B	Polymorphic Eruption of Pregnancy

Polymorphic Eruption of Pregnancy also known as Pruritic Urticarial Papules and Plaques of Pregnancy (PUPPP) is an itchy eruption that starts in the last 3 months of pregnancy and clears with delivery. It consists of small, pink papules that appear in the stretch marks around the umbilicus. These papules coalesce to form urticarial patches which can spread to involve the buttocks and thighs.

A	Scabies

Scabies is an itchy skin condition that occurs due to infection with the mite *Sarcoptes scabiei* following prolonged physical contact with an infected person. Scabies is diagnosed clinically due to the presence of burrows, often in typical areas such as the wrists and interdigital spaces of the hands. Treatment is with application of topical permethrin cream.

C	Chronic spontaneous urticaria

Chronic spontaneous urticaria refers to the idiopathic condition where urticarial lesions or angioedema occur in an individual without any inducible cause. Urticaria is usually intensely itchy and may last from a few minutes to 24 hours. The mainstay of treatment is with combinations of oral antihistamines.

D	Lichen planus

Lichen planus is a chronic inflammatory condition of unknown aetiology that typically appears as violaceous plaques with fine, white, lace-like lines (Wickham's striae).

E	Eczema

Eczema is a chronic pruritic condition with characteristic skin changes (inflamed, red, and sometimes weepy patches) that occurs due to a complex interaction between genetic and environmental factors. It usually begins in infancy, but may also occur at any age.

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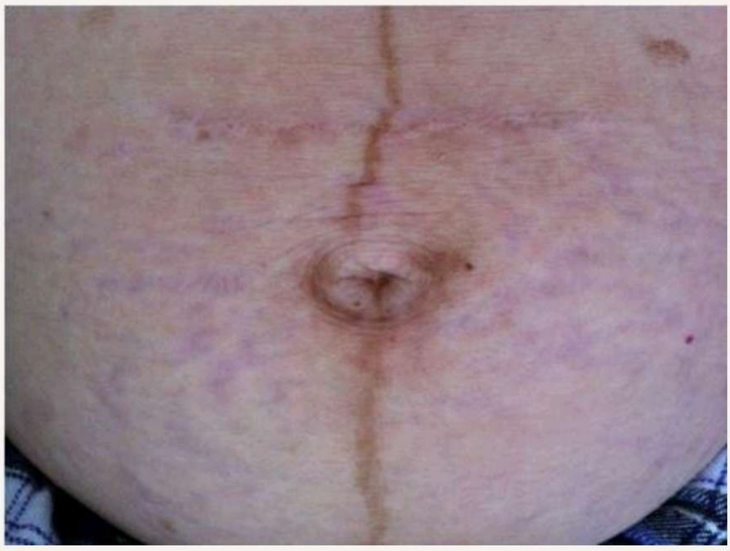
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Responses Correct:	0
Responses Incorrect:	189
Responses Total:	189
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A GP contacts the on call dermatology registrar requesting advice regarding a 35-year-old lady. She is currently pregnant and has attended the surgery complaining of a new, pigmented rash on her face. Following the discussion the registrar is sure that the condition occurred due to the release of melanocyte stimulating hormone (MSH) by the placenta.



What is the most likely diagnosis?

A	Pemphigoid gestationis
B	Melasma
C	Pellagra
D	Pyogenic granuloma
E	Pruritic urticated papules and plaques of pregnancy

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E	Pruritic urticated papules and plaques of pregnancy

Explanation

B Melasma

Melasma is a skin condition where increased facial pigmentation occurs due to an overproduction of melanin. It is commonly seen in pregnancy but may also occur spontaneously, or as an outcome of hormonal treatments (e.g. the contraceptive pill and hormone replacement therapy).

A Pemphigoid gestationis

Pemphigoid gestationis is a blistering condition of pregnancy caused by IgG autoantibodies that target the basement membrane.

C Pellagra

Pellagra is a vitamin deficiency disease due to a chronic lack of niacin (vitamin B3). Clinical presentation is of the 'four Ds' dermatitis, diarrhoea, dementia and death. It is not triggered by pregnancy and is not a dyspigmentation.

D Pyogenic granuloma

Pyogenic granuloma (PG) is a vascular growth, commonly encountered in pregnancy but not associated with pigmentation.

E Pruritic urticated papules and plaques of pregnancy

Pruritic urticated papules and plaques of pregnancy (PUPP), otherwise known as polymorphic eruption of pregnancy, consists of itchy, erythematous papules and plaques, which first arise in the abdominal striae and then spread to the rest of the trunk and limbs. They are not pigmented.

40100

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A 45-year-old lady presented with a rash in her lower legs, rigors, fever, and a sore throat. A throat swab revealed the presence of gram positive bacteria organised in chains.



Which of the following skin conditions is she most likely presenting with?

A	Erythema nodosum
B	Erythema annulare centrifugum
C	Erythema migrans
D	Erythema marginatum
E	Erythema induratum

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A	Erythema nodosum
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C	Erythema migrans
D	Erythema marginatum
E	Erythema induratum

Explanation

A — Erythema nodosum

Erythema nodosum is a type of panniculitis (inflammation of the adipose tissue) resulting in red, tender nodules, which commonly occur on the lower legs but may also occur anywhere. It is associated with throat infections due to streptococcus or viral infections (as in this case), sarcoidosis, inflammatory bowel disease, tuberculosis and leprosy.

B — Erythema annulare centrifugum

Erythema annulare centrifugum is a chronic, recurrent, annular erythema that may be idiopathic or linked to a number of infections, medications and underlying conditions (e.g. Graves disease).

C — Erythema migrans

Erythema chronicum migrans develops a few days following a tick bite and is a cutaneous pathognomonic sign of Lyme's disease. Expanding, erythematous lesions occur in a bull's-eye pattern and are associated with flu-like symptoms.

D — Erythema marginatum

Erythema marginatum consists of spreading erythematous rings that are associated with acute rheumatic fever (fever, carditis, migratory polyarthritis,) secondary to infection by group A beta-haemolytic streptococci.

E — Erythema induratum

Erythema induratum of Bazin is a rare nodular vasculitis (tender erythematous, indurated nodules and plaques) commonly affecting the posterior calves and associated with mycobacterium tuberculosis infection.

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A 45-year-old lady presented with sudden onset tender nodules on her legs (see photo), fever, joint pains, and shortness of breath. A chest radiograph in the emergency department revealed bilateral hilar lymphadenopathy.



Which of the following syndromes is she most likely presenting with?

A	Lofgren's syndrome
B	Felty's syndrome
C	Caplan's syndrome
D	Loffler's syndrome
E	Sjogren's syndrome

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Explanation

A	Lofgren's syndrome

Lofgren's syndrome is a form of acute sarcoidosis that presents with erythema nodosum, bilateral hilar lymphadenopathy and is additionally often accompanied by joint symptoms.

B	Felty's syndrome

Felty's syndrome consists of the following triad: rheumatoid arthritis, splenomegaly and neutropenia.

C	Caplan's syndrome

Caplan's syndrome is classified as the combination of rheumatoid arthritis and pneumoconiosis.

D	Loffler's syndrome

Loffler's syndrome occurs due to the accumulation of eosinophils in the lung as a result of parasitic infections, ascaris lumbricoides is the commonest cause.

E	Sjogren's syndrome

Sjogren's syndrome is an autoimmune condition resulting in the destruction of secretory glands in the eyes and mouth resulting in ulceration, and sicca.

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A 45-year-old lady presented with sudden onset tender nodules on her legs (see photo), fever, joint pains, and shortness of breath. A chest radiograph in the emergency department revealed the presence of bilateral hilar lymphadenopathy.



What is a skin biopsy from one of the nodules most likely to show?

A	Prominence of mast cells
B	Nests of melanocytes
C	Neutrophilic panniculitis
D	Spongiosis and oedema
E	Vasculitis

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A	Prominence of mast cells
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E	Vasculitis

Explanation

C	Neutrophilic panniculitis

The lesions represent erythema nodosum. A typical skin biopsy from one of the lesions would show evidence of panniculitis, i.e. the presence of neutrophils and inflammation around lobules of fat in the subcutaneous tissue.

A	Prominence of mast cells

Mast cells are a type of leucocytes that contain granules of histamine and have an important role in allergic reactions. Aggregates of mast cells in the skin are seen in urticaria pigmentosa.

B	Nests of melanocytes

Nests of melanocytes are a common histological finding of melanocytic naevi.

D	Spongiosis and oedema

Spongiosis and oedema are typical histological findings of eczema.

E	Vasculitis

Vasculitis occurs due to inflammation surrounding the blood vessels. Cutaneous vasculitis presents clinically with purpura and ulceration.

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A 45-year-old lady presented with sudden onset tender nodules on her legs (see photo) as well as fever and joint pains associated with shortness of breath. A chest radiograph in the emergency department revealed bilateral hilar lymphadenopathy.



Which histocompatibility antigen is present in approximately 65% of patients with this condition?

A	HLA DR2
B	HLA DR3
C	HLA DR4
D	HLA DQ2
E	HLA B27

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A	HLA DR2
B	HLA DR3
C	HLA DR4
D	HLA DQ2
E	HLA B27

Explanation

E	HLA B27

The clinical picture and findings are typical of erythema nodosum. There is an association with the HLA B27 histocompatibility antigen, which is present in 65% of patients with erythema nodosum.

A	HLA DR2

HLA DR2 serotypes are associated with a number of conditions such as: autoimmune hepatitis, primary biliary cirrhosis, systemic lupus erythematosus, and Goodpasture syndrome.

B	HLA DR3

HLA-DR3 is associated with the development of multiple conditions such as: myasthenia gravis, Hashimoto's thyroiditis, primary sclerosing cholangitis, and membranous glomerulonephritis.

C	HLA DR4

HLA-DR4 is associated with a number of conditions, including: rheumatoid arthritis, systemic lupus erythematosus, pemphigoid gestationis, pemphigus foliaceus, IgA nephropathy, and polymyalgia rheumatica.

D	HLA DQ2

HLA DQ2 serotype has been linked to the development of coeliac disease.

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A 29-year-old gentleman with a background of NIDDM (non insulin dependent diabetes mellitus) presented with an oozing eruption in his axillae and groins. He described it as smelly and uncomfortable. On examination he had a raised BMI of 35 and fluctuant nodules, abscesses and sinus tracts.



Which of the following is the most likely diagnosis?

A	Pyoderma gangrenosum
B	Acanthosis nigricans
C	Erythrasma
D	Hidradenitis suppurativa
E	Necrobiosis lipoidica

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D	Hidradenitis suppurativa
E	Necrobiosis lipoidica

Explanation

D	Hidradenitis suppurativa

Hidradenitis suppurativa (HS) is a chronic, debilitating inflammatory disorder. The pathogenesis is uncertain but 'follicular occlusion' (follicular plugging with dilatation and rupture of the follicle with secondary inflammation of the apocrine glands) has been implicated in the pathogenesis. HS causes recurrent 'boils' in flexural areas. Skin signs can include comedones, subcutaneous nodules, abscesses, scars and sinus tracts. It is associated with insulin resistance, obesity and polycystic ovaries. Other related disorders, of follicular occlusion that may co-exist include acne conglobata, pilonidal abscess and dissecting cellulitis of the scalp.

A	Pyoderma gangrenosum

Pyoderma gangrenosum is typically painful, consists of a deep, undermined ulcer with a purplish hue, and heals with scarring. Associations include inflammatory bowel disease, rheumatoid arthritis and myeloid blood dyscrasias.

B	Acanthosis nigricans

Acanthosis nigricans is a velvety, brownish hyperpigmentation of the skin, which may be due to obesity, endocrine disease or malignancy.

C	Erythrasma

Erythrasma is a common skin infection by the bacterium *corynebacerium minutissimum* that commonly affects the skin folds (groin, axilla). It is usually asymptomatic but may also present as a slowly enlarging, slightly scaly pink or brown patch.

E	Necrobiosis lipoidica

Necrobiosis lipoidica (NL) is a granulomatous skin disorder that causes yellowish-brown plaques, usually over the shins, and is associated with insulin dependent diabetes. The lesions arise slowly and continue to grow for months/years. The centre of the patch gradually becomes shiny, pale and thin with prominent blood vessels and may ulcerate.

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Which of the following skin appendages are present in the axillary and anogenital region and are responsible for body odour due to the action of bacteria on their secretions?

A	Eccrine
B	Sebaceous
C	Apocrine
D	Meibomian
E	None of the above

40107

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B	Sebaceous
C	Apocrine
D	Meibomian
E	None of the above

Explanation

The answer is Apocrine -

The suspected diagnosis in this patient is hidradenitis suppurativa.

Eccrine glands cover most of the body surface, but are most numerous on the palms and soles. They consist of a secretory coil deep in the dermis attached to a duct that conveys sweat to the surface of the skin. They are innervated by the sympathetic nervous system and secrete water, electrolytes, lactate, ammonia and urea. Sweat helps to regulate body temperature and may have antimicrobial properties.

Apocrine glands are found mainly in the axillae, anogenital region, female breast, eyelids and external auditory canal. They produce an oily secretion of protein, carbohydrate, ammonia and lipid. They become active in puberty and are innervated by sympathetic nerves. The action of bacteria on secretions produces body odour.

Sebaceous glands secrete lipid rich sebum with emollient as well as anti-microbial properties. The size of the gland varies in different body parts, being biggest on the face, chest and back. Blockage of ducts of these glands causes acne.

Meibomian glands are a kind of sebaceous gland at the rim of the eyelids inside the tarsal plate, responsible for the supply of meibum, an oily substance that prevents evaporation of the eye's tear film.

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